TVA'S NUCLEAR POWER PROGRAM

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HEARING

BEFORE THE

SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT

OF THE

COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION HOUSE OF REPRESENTATIVES

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TENNESSEE VALLEY AUTHORITY'S NUCLEAR POWER PROGRAM

TUESDAY, MARCH 22, 1988

U.S. HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT,
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION,
Washington, DC.

The subcommittee met, pursuant to notice, at 2:50 p.m., in room 2167, Rayburn House Office Building, Hon. James L. Oberstar [chairman of the subcommittee] presiding.

Mr. OBERSTAR. The Subcommittee on Investigations and Oversight will come to order.

The Chair would like to apologize to the witnesses for the long delay due to a series of recorded votes on the House floor. That is a common interruption here in our proceedings. We have no control over it.

The Tennessee Valley Authority comes under the jurisdiction of the Subcommittee on Investigations and Oversight. With the Sequoyah nuclear power plant scheduled to come on-line operational, it is appropriate to gather today to receive testimony on the status of the restructuring of TVA's nuclear power program.

TVA does not receive annual appropriations from the Federal Government for that power program. It is self-financed, both through the sale of electricity and through borrowing from the Federal Financing Bank.

In 1979, the full Public Works and Transportation Committee wrote legislation enabling TVA to raise its borrowing ceiling from $15 billion to $30 billion so as to assure that the Authority would be able to continue to build power plants.

TVA entered the nuclear power field in the early 1960's at a time when there was increased concern over the reliance on fossil fuels and implications fossil fuel depletion had for the future of the energy picture in the United States and throughout the valley.

During that period of time TVA planned construction of 17 nuclear units as a hedge against the fossil fuel problem. In retrospect it can be said that this was an overly ambitious undertaking considering that TVA did not have expertise in the nuclear power field at that time, their own admission by subsequent reports that have been done on that venture.

Moreover the energy needs throughout the region did not increase as rapidly as expected. Of course, there was a period in which there was high inflation, high unemployment, national recession, and the economic problems were common to many parts of

the United States, not just to the Tennessee Valley which historically suffered from normally severe unemployment and extreme poverty.

In 1980, only five units in the TVA system were operational: two units at Sequoyah, outside Chattanooga, and three units at Browns Ferry near Decatur, Alabama.

In 1985 the Tennessee Valley Authority realized they had problems and voluntarily shut down the nuclear power plants. Those problems included faulty construction inspections, lack of qualified nuclear management personnel, improper maintenance, and other deficiencies of the operation of those facilities.

The board of directors also realized they needed outside help to address the problems and they acted, to their credit.

In January 1986 TVA contracted with Steven A. White to act as nuclear power manager. His mission was to provide an effective organizational structure to bring the plants back on-line and in compliance.

Management of the TVA nuclear facilities appears to have significantly improved since the 1985 shutdown. A number of outside managers have been hired, other steps have been taken to improve operation, but there are still problems, there are still needs for improvement.

For instance, Can TVA attract and retain qualified nuclear managers? Another concern is the $17 billion indebtedness of the TVA nuclear energy, overall energy program. Ultimately that cost is going to have to be paid back through the rate payers.

How does TVA borrow from the Federal Financing Bank and what effect will this huge indebtedness have upon their rate payers throughout the region?

In the hearing today, we are going to examine these and other questions. Our witnesses will include the TVA Board of Directors and the manager of their nuclear power program, Mr. Steven A. White.

The Chair now recognizes for an opening statement the gentleman from Pennsylvania, Mr. Clinger.

Mr. CLINGER. Thank you very much, Mr. Chairman.

I want to first of all commend you for calling this hearing. This is the first time in several years that we have revisited TVA and looked at some of their programs. Today, of course, we are going to be concentrating primarily on the nuclear power program, but I think it is entirely likely, as we have discussed, that additional oversight may well be conducted in months ahead on other activities of the TVA.

I would also like to join with you, Mr. Chairman, in welcoming our distinguished panel of witnesses before the subcommittee this afternoon, and particularly to acknowledge the presence of Mr. Runyon, who, I understand, has just recently been confirmed as the Chairman of the Tennessee Valley Authority. I know that we all join in wishing you well as you assume your new responsibilities, Mr. Runyon.

Through our witnesses' testimony, the subcommittee today will review in some detail a program which, as you have indicated, Mr. Chairman, at one time and in many circles, was viewed as the cornerstone of TVA's operations and one that was looked forward to

to be expanded and developed well into the 21st Century. Instead, as we now know, TVA's nuclear power program foundered and became embroiled in such heated controversy that its future became seriously in doubt. Safety concerns led to the 1985 shutdowns of the generating units at Browns Ferry and Sequoyah, while construction of the Watts Bar facility has been compromised by employee unrest, safety concerns, management short-comings, and construction delays. And the construction schedule of the Bellefonte nuclear plant has likewise been slowed.

Even at the time of TVA's initial attempts to rectify these matters, even then the issue was clouded in controversy: in its hiring of outside consultants to reorganize, revamp, and operate the nuclear power program, allegations of conflicts of interest and "sweetheart" contracts were laid at TVA's doorstep. And after those initially deficient contract arrangements were cured, and they were cured, problems continued to persist, including charges that the TVA's senior nuclear program manager had deliberately attempted to mislead the Nuclear Regulatory Commission regarding the adequacy of quality assurance and control in the Watts Bar nuclear plant construction. I do understand, Mr. Chairman, that a referral of that matter to the Justice Department is still pending, and that indeed another committee of the Congress may be looking into it as well.

For nuclear power plant construction, TVA has incurred some $15 billion in long-term debt. As you have already indicated, overall long-term debt obligations for the power program total more than $17 billion out of the $30 billion ceiling which was authorized by this committee. As the committee of jurisdiction, we are concerned that the nuclear program regain its viability and credibility and begin to operate in a safe, cost-effective manner, as was originally contemplated when construction was commenced. At risk, of course, is not just the repayment of the bonds, themselves, should failure continue or should shutdown continue, but the continued provision of cheap, dependable electricity to commercial and residential customers throughout the Tennessee Valley.

TVA's nuclear power program seems to be on the verge of a rebirth. We understand that the NRC is expected to soon approve the restart of Sequoyah unit #2—in fact, it may be in the process of doing that as we speak—and that plans to restart the remainder of the Sequoyah and Browns Ferry units are also moving forward. So I think what we are interested in here today is to assure ourselves that the improvements which you have noted, and which the agency has carried forward in recent months, will continue into the management of the nuclear power program for many years to come.

Thank you, Mr. Chairman.

Mr. OBERSTAR. Thank you, Mr. Clinger, and I greatly appreciate the participation on your behalf in preparation for this hearing, and staff on the minority side, as we have proceeded in a bipartisan manner toward this hearing.

The Chair recognizes the gentleman from Tennessee for an opening comment.

Mr. CLEMENT. Mr. Chairman, it is a pleasure to be on this subcommittee and I am looking to serving in this capacity. I know all

three board members. I had the opportunity to be on the TVA Board for approximately two years, to finish the unexpired term of Bill Jenkins, who resigned. It was one of the greatest experiences of my life. I had been a former chairman of the Tennessee Public Service Commission in Tennessee, and President Carter appointed me to the TVA Board of Directors. Therefore, I know much about the agency, about its past, about its history, about its mission for the future, and I congratulate Chairman Runyon being the new Chairman of the TVA Board, as well as Johnny Waters and Chilly Dean, who I've known in the past as well.

Mr. OBERSTAR. Thank you.

We want to take this opportunity to welcome the gentleman from Tennessee to the Subcommittee on Investigation and Oversight. This is the first hearing of the subcommittee since the gentleman has been assigned to the Committee on Public Works and Transportation. Given his long record of experience in state government and with the Tennessee Valley Authority, we know he is going to make a very valuable contribution to the work of this subcommittee, which will include the TVA, but a wide range of interests, I suspect, not only the region, but also the country as well.

Welcome aboard.

We will now take testimony from our first panel. Gentlemen, would you please rise.

[Witnesses sworn.]

Chairman Runyon, would you like to begin, please.

TESTIMONY OF MARVIN RUNYON, CHAIRMAN, BOARD OF DIRECTORS, TENNESSEE VALLEY AUTHORITY, ACCOMPANIED BY CHARLES H. DEAN, BOARD MEMBER; JOHN B. WATERS, BOARD MEMBER; STEVEN A. WHITE, MANAGER, OFFICE OF NUCLEAR POWER, TENNESSEE VALLEY AUTHORITY; AND ROBERT STEFFY, MANAGER, OFFICE OF POWER, TENNESSEE VALLEY AUTHORITY

Mr. RUNYON. Thank you, Mr. Chairman, my colleagues on the TVA Board and I appreciate your interest. We welcome this opportunity to testify and answer any questions that you might have.

We have with us today Admiral Steve White, manager of TVA's Office of Nuclear Power, and Bob Steffy, Manager of TVA's Office of Power.

As you know, TVA is a Federally-owned corporation, created by an Act of Congress, 55 years ago this May. Even though it is a Federal corporation, it's located in the Tennessee Valley, among the people it serves.

TVA is charged with developing and conserving the region's total resources in a unified fashion, and helping people use these resources wisely. When TVA does its job right, it also serves as a national laboratory. Many of TVA's natural resource and economic development programs are now found throughout the country, but their seeds were first sown in the Tennessee Valley.

Today, TVA stands as one of the Nation's largest electric utilities, serving virtually all of Tennessee and parts of Virginia, North Carolina, Kentucky, Georgia, Alabama, and Mississippi.

TVA manages one of the Nation's most developed river systems for flood control, navigation, electric power generation, and a growing number of other uses. It operates the Nation's foremost fertilizer research and development center. And it continues to demonstrate new and innovative ways to conserve natural resources, enhance the environment, and stimulate economic progress.

Our agricultural, natural resource, and economic development programs are funded each year by Congressional appropriations and by some revenues of their own, but TVA's power program is entirely self-financing. Not one tax dollar goes into the operation of our power system.

While TVA's rates are competitive on a national basis, our commercial and industrial rates are higher in some instances than those of our neighboring utilities. If we don't correct this situation, we could lose some of our best customers one by one. Our remaining customers would then face higher rates and they, too, might find neighboring utilities attractive.

For TVA to be successful in an increasingly competitive environment, it is going to have to get its own house in order, Mr. Chairman. It's going to have to increase productivity and prudently cut costs.

My colleagues on the board and I have recently established six task forces that are helping us with a complete examination of TVA's operations. They are working in the following areas: the organization of our power system; the future needs and power supply options for our region; the legislative initiatives necessary for a competitive power system; the business operations of TVA; the compensation of TVA employees; and the role and scope of our congressionally appropriated programs.

In addition, we've divided responsibilities among board members so that each of us can concentrate on specific areas while working together as a decision-making team.

We've also established a management committee made up of the board, TVA's general manager, and each of TVA's office managers.

This group of senior managers meets each week to discuss agency operations, to see where productivity gains can be made, and to act as a team in helping TVA reach its goals.

As part of the overall process, we've also instituted a hiring freeze. This hiring freeze will help us focus on what our priorities really are. It'll help us put our people in the right places. And it'll force us to have the training programs we need to give employees new skills for the new jobs they will have in the future.

These are just a few of the changes TVA will have to be making in the near future. TVA will have to embrace change, not resist change, if it's to survive and prosper in an increasingly competitive environment.

TVA has responded to challenges before, Mr. Chairman, and I'm confident that it can do so again. Certainly, a key to TVA's success will be bringing its nuclear program back into safe and efficient operation.

After all, we've invested billions of dollars in these facilities, and they're not generating any revenue or electricity. And they haven't done so for more than two years.

But I'm pleased to report that tremendous progress is being made in our nuclear recovery efforts, and I believe that TVA is about ready to turn its nuclear corner.

Since January 1986, our recovery efforts have been led by Steve White. His hard work and talents are evident in the progress we've made so far, and he enjoys the trust and respect of everyone on this board.

Earlier this month, we reported on the details of our progress to the Nuclear Regulatory Commission. Members of the commission also are meeting this afternoon, and we're hopeful that today the NRC will give us permission to restart Unit 2 at our Sequoyah Nuclear Plant near Chattanooga, Tennessee.

Following the restart of Unit 2, we plan to have Unit 1 operating within six months or so. And, if all goes well, we hope to bring a unit of our Browns Ferry Nuclear Plant online by the end of the year or the beginning of next year. But let me assure you, Mr. Chairman, we're not going to rush this process. We are proceeding deliberately, and we're putting public safety above all else. Not one reactor will be restarted unless we are completely confident and the NRC is fully satisfied that it can be operated safely and efficiently for a good, long time.

TVA's five licensed nuclear units, three at Browns Ferry and two at Sequoyah, were shut down voluntarily in 1985. And since then, we've been involved in an intense recovery effort.

Our studies indicated that it would cost less to straighten out our nuclear program and fix our existing units than to abandon them and seek other power supply options.

To give you some perspective on this decision, two years before we voluntarily took these units out of production, they generated about one-fourth of the electricity on the TVA system at a cost of some 25 percent less than the system average.

Our nuclear recovery efforts have focused on two goals: to restart our licensed units, and to implement management changes that would result in the long-term operation of a quality nuclear program.

To reach these goals, we've implemented comprehensive technical programs to identify and correct hardware deficiencies and document the soundness of plant designs.

We've brought in experience mid-level and upper-level managers throughout the nuclear program. We've also initiated a thorough training and development program to upgrade the pool of management talent that exists at TVA.

These efforts, and others, have helped us reestablish credibility with the NRC and the public, and have brought us to the potential restart of Sequoyah Unit #2.

Beyond restarting our licensed nuclear plants, we have four more units still under construction. Our twin reactor Watts Bar Nuclear Plant is virtually complete, and we now have a program team developing an overall plan for finishing both units and making them ready for licensing.

At our Bellefonte Nuclear Plant, work has been deliberately slowed down for the past several years. According to our power demand estimates, the units there are not needed in the short-term

but might be needed in the future. The currently scheduled date for commercial operation of Unit 1 at Bellefonte is January 1994.

For our overall nuclear program, this year's operating budget is $500 million, with an additional $800 million for capital budget. Last year's operating budget was about 10 percent less, with capital spending about the same.

With this sketch of our recovery efforts and our plans for the future in mind, Mr. Chairman, I'd like to discuss what I think is the most serious threat to our nuclear program.

I'd like to do so by returning to the theme of competition. TVA is having trouble recruiting and retaining the quality managers it needs to operate a top-flight nuclear program. At entry levels, we can bring people in at competitive salaries, and we can keep most of them as they begin mid-level responsibilities. But we lose too many of our best people just about the time they're ready for senior positions.

The reason is simple: We can't pay them a competitive wage. No regular employee at TVA can be paid a salary greater than a board member, which is $77,500, the so-called Federal pay cap.

We're searching now for some top talent in our nuclear program, to take the place of contract managers who will be leaving as our restart efforts wind down.

The type of people we are looking for would be holding vice-president level positions in other utilities. The problem is, all the people we're talking to are earning between $100,000 to $175,000 a year, and this doesn't include bonuses and other corporate benefits.

Study after study has indicated that executive-level nuclear managers earn from two to eight times more than we're able to pay with our current restrictions. If we can't be competitive in hiring top talent, we're not going to be competitive in our long-term operations, and that's a sure bet.

The problem, while critical and most visible in the nuclear area, is not limited to the nuclear program. It extends to our power system and to managers and professionals throughout most of the agency. This is a problem that has to be addressed, and one that deserves Congressional action at an appropriate time.

If TVA's power system is to be competitive, we must have the flexibility in compensation common among private utilities. And remember, not one tax dollar would be involved in allowing TVA to pay its power system employees their deserved market value.

On a positive note, while our nuclear plants have been out of operation, the rest of our power system has been performing extremely well. And we congratulate Mr. Steffy for the fine job that he's been doing.

Our coal-fired units have been producing record amounts of electricity, and our top performing plants are among the best in the Nation, year after year. We have also been purchasing power available on the interchange market at very attractive prices. But virtually all of our purchases have been for economy reasons, rather than to make up for generating shortages on our own system.

In fact, since our nuclear plants were shut down in 1985, we could have met the demand for power with our own plants 99 percent of the time. We were simply buying power cheaper than we could produce it with some of our less efficient plants.

This year, as the result of a $1.8 billion settlement reached with the Department of Energy, TVA was able to rollback its power rate increase for fiscal year 1988 to an average of less than two percent.

In short, even with our nuclear units off-line, TVA's power system has been providing for the needs of its residential and industrial consumers without any disruption in service, and with a minimal increase in rates.

Over the next ten years, we expect our rates to increase a little more than an average of 3 percent per year, compared to an expected five-to-six percent general inflation rate.

In conclusion, Mr. Chairman, TVA is meeting our region's current energy needs, and is rebuilding its nuclear program to meet the needs of the future. To prepare for that future, we've also instituted a number of management changes at TVA, including operating differently as a board of directors, establishing a top-level management committee, forming task forces to examine thoroughly TVA's operations, and implementing a company-wide hiring freeze.

We are doing so because such steps make good business sense, and because they're necessary for our successful operation in a competitive environment. This environment will be bringing a number of changes to TVA, Mr. Chairman. Not all of them are particularly clear at this time.

There is one change, however, that is clearly needed. We need to be able to pay competitive salaries to our employees. This, I believe, is in the long-term interest of TVA, the region, and the Nation.

We appreciate your interest in TVA, Mr. Chairman, and the attention of your subcommittee.

We're ready to answer any questions that you might have.

Mr. OBERSTAR. Thank you very much for a complete and far-reaching statement, and for the additional documents that we have asked for in conjunction with this hearing. You've been very good in responding, you and your staff, to our needs.

I must say that we will revisit the Tennessee Valley Authority at a future date, as the gentleman from Pennsylvania indicated, to review your nine-point program that I have a particularly keen interest in. You've done some very innovative and interesting things in the valley, and we want to take a look at your program there, and we'll be down to do that as soon as we can work out a date in our legislative program.

I do want to compliment the authority on moving, as you have done once the problem was discovered and once you came to grips with it, really. One of the toughest things to do is look in a mirror and say, We've made a mistake, and we've got to do something about it.

Too many Federal agencies, and not just Federal agencies, State agencies, people in the business sector as well, refuse to acknowledge that there have been problems, refuse to face up to those problems. They grow, deepen, worsen, eventually in a corporate world they become bankruptcies. In the Federal sector, they become shutdowns of Federal agencies, or where safety is involved, they involve risk or loss of life.

You have really faced up to the problems, and I like the statement on page 9, we're putting public safety above all else. I want to explore that with you a little bit.

I think the fundamental question, for my purposes, the purpose of this hearing, that will be instructive for other areas of jurisdiction of this committee, and that is, How did things get that way? You're a new chairman, you can look back, you can give a little perspective on the situation.

What happened over a period of time with the attitude, the viewpoint, both at the director level and at the operational level within TVA, that a program of such magnitude, of such multi-billion-dollar commitment, got into such bad shape? How did it happen, so that we can learn from the experience, you can learn, this committee can learn some insights that may be applicable to other areas, so that it does not happen again.

Mr. RUNYON. I think there are several answers to the question. First, I believe that the need for power was vastly overrated. In the analysis that was made, the existing need at that time was looked at, the increase in demand was looked at, and that increase in demand was projected into the future too far, at the same rate, same ratio.

Mr. OBERSTAR. What was the time frame within which those future building decisions were made, the 1960's, early 1960's?

Mr. RUNYON. Those were made back in the 1960's and 70s, I believe, when they started a total of the 17 units over a period of about 10 years. The idea of starting 17 plants, to me, coming from the industry I'm in, 17 is too many. I don't know how to start 17 in that short a time.

Mr. OBERSTAR. When they had never been in the nuclear business?

Mr. RUNYON. Yes, sir.

It would be very difficult for me to do. One at a time is plenty. If you've got a very good management team, that's highly skilled and trained in what you're doing, maybe you can do two or three in 10 years. Seventeen is an awfully lot. But what happened, I think, is they saw the need. Now, you have to go way back in TVA, it goes back 55 years. In the beginning, TVA saw the need for power. It didn't start out to produce power. It started out, you know, to stop the floods and to provide navigation, primarily, on the Tennessee River, and then provide power as a result of flow control and navigation. Electric power turned out to be a wonderful thing for the people of the valley. And so more dams were built, and more power was generated. TVA was a very good dam builder. It knew how to do it. The demands for power kept growing, and TVA couldn't catch up in supplying power.

The time came that there was a new way to generate power, called nuclear energy. I have looked at some old books and films and things like that, and there were people that thought that nuclear energy would be free, once we get nuclear in place, it's really easy, it just produces power.

Mr. OBERSTAR. I remember the claims myself. The predictions and projections were the need would grow and the nuclear power would be so cheap you'd have to give it away.

Mr. RUNYON. That's right.

Mr. OBERSTAR. That didn't happen.

Mr. RUNYON. That's right. It's very difficult to think what was in people's minds. But I think this was part of it the need for power, the fact that others had turned to nuclear power, and the promising economies. So TVA started down the nuclear path. It said, well, we know how to build dams, we know how to build coal plants, so we must know how to build nuclear plants. We're good builders, and we'll build them. And we got a couple going, at not too much expense: Browns Ferry and Sequoyah.

But nuclear energy is different from fossil energy, and the demands for safety are a lot more stringent on nuclear than people had ever envisioned.

As the projections for power continued to grow, TVA started more and more nuclear plants and all of a sudden it was building so many of them that it didn't have the people to do the job. And I think that that all boiled down to the problem that TVA didn't pull the plug soon enough. Now, granted, somebody did look up and say, Wait a minute, 17 we don't need. And eight were stopped, at a cost, I think, of $2 billion writeoff at that time. But they were stopped.

There were four more units that have never been licensed, which I mentioned to you, Watts Bar, and Bellefonte. A decision was made on those, based on more sophisticated demand projections than had been used in the past.

It was around 1974 when we had the energy crisis, Our oil was cut off, and people started looking seriously at conservation. Everybody did. I can remember changing my thermostat. I can remember going to work in sweaters because the offices were set to 60 degrees. That saved a lot of energy. Now, if it was fossil energy, that's one thing, but if it was electric power, that's another thing. And in the Tennessee Valley, electricity is used by a lot of people for heating, more than gas and oil.

So the demand was cut back. Well, when the demand cut back, I don't think anybody recognized at that instant, Hey, we better go back and check our projections. Something has happened to us, demand for power is going down.

Another thing that happened is that the world of technology changed. All of a sudden people are now able to make machines, equipment, computers, you name it, that don't use as much power.

Look at computers. The first computer was a huge thing, and used a tremendous amount of electric power. The technology improved and they developed computers that don't use as much power anymore. Technology gave us better sound, better computing, whatever it might be. The equipment is smaller, it uses less space and less power. That's what's happening to us, and that's what has happened in the past.

Mr. OBERSTAR. What you have described for us is a pattern of consequential events that interlocked, no one decision point, no one massive decision except the initial one of jumping in big, nuclear power, without having the experience factor, knowing how to do it. If someone had said, Let's build 17 dams all at once, do you think TVA would have jumped in and started designing 17 dams all at once?

Mr. RUNYON. I don't think they would have done that.

Mr. OBERSTAR. No. But 17 power plants. Once that decision was made and you're in it, it's a little hard to stop the momentum and you keep going down that path. I think that's the point that we need to look at, that there are a series of decisions made, no one of which was the pivotal point. There was no point of no return, except for the initial judgment. Somewhere along the line, the realization began to set in, eight plants, we've got to stop this, and the pressures began to grow on cost of construction, and the safety requirements being put in.

The Southern States Energy Board TVA Advisory Report, which I have allowed to be viewed at some length, says, on page 3, the basic problem is lack of a workable structure, management, accountability, compensation, elements of that workable structure that they pointed to in this report.

I want you to assess for me whether you think TVA is at that point where a workable structure is in place, and whether the issues of management, accountability, and compensation—well, we know that compensation—I don't think you need to dwell on that. We'll deal with that at a separate time. Management and accountability are so poised that they can be dealt with. Obviously, for a very long period of time, the board was not acting in an accountable fashion, by not making the hard decisions or reviewing initial over-optimistic estimates, and it didn't have adequate management in place.

How would you persuade this committee that TVA is now poised for the future, in a stronger position than it was in the past?

Mr. RUNYON. I would have to say to you that we are getting ready. In the recent past we have organized a management committee, which consists of the board, the general manager, and all of the office managers. We meet once a week. Those meetings last anywhere from three to five hours we discuss what our management practices are and who is accountable for what We have much more work to do from the standpoint of getting accountability into our organization. But it can be done. The board has the authority to put the accountability in place. Those are steps that we are taking now.

But to say to you today that everything is in place would be wrong. It is not in place today. But it will be. In the near future, we can come and say to you, We think we have accountability in place. To do that will take some restructuring of the organization, but it can be done and we can do it.

Mr. OBERSTAR. In the aviation business, this subcommittee has jurisdiction over the Federal Aviation Administration, when an airline has a series of problems in maintenance operations, the FAA from time to time orders what we call a white glove inspection, following which they develop a get-well plan for that airline. Do you have a get-well plan for TVA, and what does it provide for the post-White era? There is a great deal of concern that when Mr. White eventually leaves, who succeeds, what is the plan for that period of time following his departure.

At this time I would like to say that, based on reports that we have had, Mr. White is doing an extraordinary job, and is working superhuman hours to get this program back on track, and deserves a great deal of congratulation for the effort that he has put into it.

But when a turnaround is so dependent on one person, what happens when that key player is gone?

Address the get-well plan question.

Mr. RUNYON. Yes, sir. We have appointed six task forces to cover six specific areas that we think we need to investigate and analyze at TVA.

Mr. OBERSTAR. You cited those at the outset of your testimony.

Mr. RUNYON. Yes, sir. And we think, when we get the reports back from those task forces, we will be in a position for the get-well plan to take place.

Mr. OBERSTAR. And you are developing the elements of such a plan at this point, is that right?

Mr. RUNYON. That is correct. We are developing elements of that plan, and when we get those task reports in, then we will be able to put a plan in place.

Mr. OBERSTAR. When do you anticipate having that information together and then developing a comprehensive program?

Mr. RUNYON. By the end of this year, we think we will have such a plan in place. But some elements of it will come sooner than that, some will take longer. But we think that, by the end of the year, we will not only have the plan, we'll have it in place and be operating with it. We would hope to beat that. But that would be the date, we think.

Mr. OBERSTAR. Thank you. I will have other questions, and I want to rotate among the members, for the Board's edification, to have a 10-minute question period.

Mr. RUNYON. Could I——

Mr. OBERSTAR. Yes.

Mr. RUNYON. I would like to address the White situation.

Mr. OBERSTAR. Yes, do that.

Mr. RUNYON. First, I would like to say that the board of directors is very grateful to Admiral White for taking on the responsibility that he did, and the get-well plan started when Admiral White came to TVA. That's when the get-well plan really started. It has been implemented, and we are going to see the results of it soon, as we start Sequoyah Unit #2, which we expect to do shortly.

So, from that standpoint, the plan has been well thought out and has been implemented by Steve White.

As for his replacement, that's a concern to us. Again, the salary pay cap is a problem. We want people to come to TVA who want to work at TVA for the rest of their life. And you can't do that saying to a person, "Come to us for a year." That's very difficult to do. We need to be able to make them an offer like any of our competitive utilities could make them and expect them to come. There are people out there who want to move to TVA to work, and the requirement for salary is not as high as it would be for a consultant. They have other reasons for wanting to move to Tennessee. Tennessee is a very nice place to live. Alabama is a very nice place to live. All of the Tennessee Valley is a nice place to live. And we have people that would like to leave and come there.

I personally am from Texas, and I've lived in many, many States around this country. And I left—the last State I lived in, to move back to the Southeast, which is what is offered to people who want to work for Tennessee Valley Authority.

So we think that the pay cap is something that we have to work on to solve that problem. If we can't solve that problem, then we'll have to continue to contract managers in TVA, but it is not the best way to run an organization.

Mr. OBERSTAR. No, it isn't, and we will come to that question.

The Chair recognizes the gentleman from Pennsylvania, Mr. Clinger.

Mr. CLINGER. Thank you very much, Mr. Chairman. That was, I guess, my first point, and that is that if the pay cap was not changed—in other words, if it was not opened up so that you have the ability to attract the quality of managers that you are looking for—your option, then, or your only alternative then would be to continue contracting out for those services, and that would be on a temporary year or two at a time basis.

Mr. RUNYON. We would have to either do that, or become more creative with our benefit programs that don't affect salary. We might perhaps do that.

Mr. CLINGER. There is no inhibition in present law to prevent you from being creative in terms of benefit packages?

Mr. RUNYON. We think that there is not.

Mr. CLINGER. The only limitation is the cap aspect?

Mr. RUNYON. The only limitation is the salary pay cap, if I understand it correctly, yes, sir; that the base salary cannot exceed a director's salary.

Mr. CLINGER. What, in your view, would be necessary? Where should that cap be, or should there be any cap? And, if so, in what area should that cap be to enable you to have the kind of flexibility you think you need?

Mr. RUNYON. I think there should be no cap. Our competitors, which are utility companies throughout the United States, have no caps on their salary, to my knowledge. I imagine that their board of directors might say, You can only pay your president $500,000, or something of that nature. But I think they would make exceptions to that if they could get the right person with the right qualifications to do the job that they wanted. They can do pretty much what they want, I think.

From the standpoint of TVA, I think there should be no cap on any employees because we are talking about nuclear power, and nuclear power is very important to us. On the other hand, if you go to the other utility companies, you'll find that, in power companies that have, say, two nuclear operations but also have a lot of fossil operations, the person who runs those operations makes considerably more than TVA people who run fossil operations. They make more than the nuclear operators actually make, too.

So it is very important that we be competitive throughout the organization. When you're running a corporation that has, roughly, $5.5 billion in revenues, you really need to have people qualified to do that job. Our competitors have the capability to do that, and we think we should have it.

Mr. CLINGER. Would this apply to you, as board members, as well, to lift the cap?

Mr. RUNYON. No, I am not considering myself as a board member in that. I am considering the people who actually work for TVA. I

actually don't work for TVA. I work for Civil Service. And there is a difference between Civil Service and TVA.

Mr. CLINGER. You don't think it creates a problem that you have highly paid managers who, in effect, are responsible to you as board members who are making substantially more?

Mr. DEAN. Mr. Clinger, I have been on the board now for almost seven years, and we have repeatedly brought up this matter, which has become more and more of a concern to us. As a matter of fact, we were fortunate, in 1985, to discover we could bring in contract managers and put them in the line. We worked all that out, and that's been our salvation. But we have never, never suggested that the board of directors be raised above the pay cap limit, because the implication of that would be seeking a pay raise for ourselves, and it would be foolhardy. The chances of getting this are——

Mr. OBERSTAR. We understand that, believe me.

Mr. RUNYON. Mr. Clinger, to answer your question about how I would feel with people working for me making more money, it would feel normal. Until I went to work for Nissan, I usually had—I say usually, because there may have been one or two cases where it wasn't the case—people working for me that made more money than I did. It was not unusual for that to happen because of pay grades, and if you move faster than somebody else does, people in that grade for a long time would make more money than you make. I think that is true in most organizations.

Mr. CLINGER. Let me just shift gears here for a minute. I come from Pennsylvania, the site of another nuclear facility known as Three Mile Island. And I am wondering what impact, did that have any impact on your situation? How did that impact upon, for example, the projection of demand and that sort of thing? Or didn't it have any impact?

Mr. RUNYON. I wasn't there when that happened, but I think what did happen is that the people went back and looked at their operations to determine what they should be looking at closer. It had a terrific impact on all the nuclear operations in the United States, and the world, as far as that's concerned.

Mr. OBERSTAR. Right.

Mr. DEAN. It affected TVA to the extent that the NRC tightened up their rules and regulations, for such things as environmental qualifications, fire protection, and those types of things. And TVA did not have in place a satisfactory means to track and see that those regulations were carried out, which was the beginning of the trouble that was culminated in 1985 when we had to shut everything down.

Mr. CLINGER. So indirectly it really led into the shutdown in 1985 because of the greatly increased safety requirements, inspection requirements laid upon you.

And it was at that point—I'm sorry, I'm new to this, I'm not sure how long Admiral White has been on board——

Mr. WHITE. I came in January 1986.

Mr. CLINGER. 1986. So there was a recognition then, in 1985, that you really did not have sufficient qualified personnel to really get this program up and running.

Mr. DEAN. Going into 1985, we had five licensed reactors, and four of them were running, and one was shut down for refueling.

But in the spring of 1985 we shut two more down for problems with procedures, and then in August we shut down two more for failure to properly comply with environmental qualifications. These were things TVA discovered. But we realized we had a big problem, and then we realized we also needed some outside help from the management standpoint. Through a long process which I won't bore you with right now, it's a historic matter, we discovered that Admiral White was available, and we hired him. We started talking to him in December of 1985 and he came aboard in January of 1986.

Mr. CLINGER. One of the concerns we have, as you prepare to start up Sequoyah again and move forward with the program, as I think has been indicated earlier, is whether there is going to be continuity, that is, are we going to carry forward with these reforms. That, of course, is going to depend on the quality of the managers that you get. But I am wondering, as a result of your review, and as you prepare for the restart of Sequoyah, what kind of consideration has been given to ongoing training programs to train your personnel who are going to maintain this unit? Have you established, in effect, a training program for your personnel for the future?

Mr. RUNYON. Mr. Clinger, I would like to ask Admiral White to answer that question. He is the person who has established that, and he knows the most about that.

Mr. WHITE. First of all, what we have established in the nuclear power program, from the beginning, since my arrival, has not been dependent on a single person. I've tried to build a team and to institutionalize the changes. For example, we established a hierarchy of policies, directives, standards, procedures, and instructions to make these changes permanent. We revised and changed the organization in addition to the infusion of management talent. It's a very broad-based program and not based on bringing a single or all the nuclear units on-line. It is based on that plus correcting the root cause of the problems that got TVA into this mess, primarily in the 1980's. At Sequoyah there are no contract managers in the Sequoyah organization. They are TVA employees. We have been very fortunate to be able to get that talent.

In answer to the other part of your question, we have done extensive training for operators, maintenance people, and quality assurance personnel. So we have instituted a lot of training, and we are making these changes permanent. We have never looked for a band-aid change.

Mr. CLINGER. And you anticipate, then, that the changes that you have been instrumental in getting in place will outlast your tenure?

Mr. WHITE. Well, certainly that's been the basis of it——

Mr. CLINGER. Of everything you've done.

Mr. WHITE [continuing]. Is to build that team. Now, obviously, the person that replaces me must have the same philosophies, the same standards, and, in fact, I'm committed to the NRC and to the Congress to provide my opinion as to whether my replacement does have those qualities. So it needs the proper leadership, and it needs the support and leadership of the board, which is always there.

Mr. CLINGER. But you are confident, as the nuclear power manager, that at this point the startup of Sequoyah is appropriate, and,

as laid out in your timetable for the startup of the other units, are you going to be prepared to do that?

Mr. WHITE. With reference to the Sequoyah, there is no question in my mind, and, for example, to assure that, I brought in a special team of outside personnel and told them to be highly critical of our operation, to not follow industry standards, but to follow absolute standards of excellence, and to report to me critically on what they found. And they did that.

I am not looking for, as I say, industry standards. We then had an oversight of Q. A. on that effort. I then had an additional oversight by a special additional group to ensure that the problems found were corrected. There isn't any question at Sequoyah. If the thrust of your question, though, is in the long term, I certainly agree with the chairman that something must be done to retain the talent that we have brought on board and we continue to seek. We must have a long-term solution to that problem.

Now, obviously, I am not in a position to guarantee that unless certain changes are made.

Mr. CLINGER. Right. Just one final question, Mr. Runyon.

Clearly the projections that were made in the 1960's as to demand down the road were way off base, and for some of the reasons which you have cited here today as to why we went so awry in thinking that 17 nuclear power plants were going to be necessary to meet that projected demand.

What confidence do we have that the formula, or whatever it is that you go by now in projecting your demands down the road, is, any more accurate than what we had in the 1960's? Can you give us some assurance that we are not as far off the mark today as we were then?

Mr. RUNYON. The way I would have to give you that assurance is to tell you that, because of the way you phrase that question, we have one of our groups looking at what is our projection is going to be for power, what is the projection going to be for coal availability. When a nuclear plant goes on stream, it's there for 40 years, which is a long time. We are restudying the plans that I mentioned in my statement for one unit at Bellefonte to begin operations in 1994. We're restudying that to see if that's really what we should be doing, or if there should be another plan set in place. Now, as we look back at what happened, why it happened, how it happened, we are looking again at that to determine, are all the right criteria in the equation. We think it's going to take probably the better part of a year to get that kind of a study completely done and up to date.

Mr. CLINGER. This is one of your past——

Mr. RUNYON. Yes, sir, we're working on them.

Mr. DEAN. Mr. Clinger.

Mr. CLINGER. Yes.

Mr. DEAN. Those forecastings changed considerably in the last 15 or 20 years.

Mr. STEFFY. Yes, sir. If you go back into——

Mr. CLINGER. Pull the microphone up a little, please.

Mr. STEFFY. Yes, sir. If you go back into the 1960's and look at the load forecast, it was very similar, I think, to the way you described it earlier in that we took a historical growth, which was

almost a straight line, and just simply projected into the future. We now are doing at TVA what we think is start-of-the-art projecting. We are looking at—we don't just come up with one load forecast, we come up with many. And we look at a variety of different scenarios and we ultimately boil these down to a high load forecast, a medium load forecast, and a low load forecast, that encompasses a range, and it simply recognizes that the future cannot be very accurately predicted with a straight line. It may go a variety of ways.

But by doing these load forecasts this way it provides the decision-makers with the opportunity to make decisions that are the type of decisions that will meet the future whichever way it goes. But we have the future bounded by reasonable bounds, we think, and we think we have made great strides in our load forecasting. We have had consultants look at how we're doing, and GAO has investigated it, and has agreed that we are on the leading edge of technology in this. We think we have made some great strides in that.

Mr. CLINGER. Which would, presumably, prevent or at least inhibit your ability to make enormous capital investments where there was only——

Mr. STEFFY. It certainly would point out the facts that you need to maintain a great deal of flexibility, as you make those decisions, moving into the future. We can't project what's going to happen in the Middle East or some other things like that, and if you make those tremendous capital decisions, then if something changes that you didn't project, you're just hung with it. So it would point out that kind of thing, yes, sir.

Mr. CLINGER. Thank you, Mr. Steffy.

Thank you, Mr. Chairman.

Mr. RUNYON. Mr. Clinger, before we leave the subject of future staffing we discussed pay cap, and Admiral White indicated we had all TVA employees at Sequoyah. We have done some creative recruiting. In fact, what we have done at this point in time is to offer additional retirement benefits to some employees who came to work for us. So, in fact, their salary is at seventy-seven five, but they have more retirement benefits than a person who would normally have. We have done that already, and we are looking at that for others.

Mr. OBERSTAR. Certainly in the area of forecasting, that is at best a guessing game, an educated guess based on a number of factors. I serve on the Budget Committee as well as on Public Works and Transportation, and we engage in that exercise every year with the Office of Management and Budget, the Congressional Budget Office, and the blue chip economic forecasters, and we, each year, have to take a composite.

Now, economists notoriously have a problem. They really can't predict what is going to happen a year from now, as we make out a budget in March of 1988 for fiscal year 1989 that starts eight or nine months from now and goes for a year thereafter. The economy just doesn't stay static. It's very difficult to make those projections, taking into account all of the different factors. But what is important is that you have a set of guidelines, guideposts, that you are calculating into your load forecasting some of the standard factors

that the private sector does and that Government forecasters do, of interest rates, GNP growth, national growth, regional growth, unemployment figures, the cost of money, and then develop your projections. As long as you've got a system, and that system is standardized and reviewed, and I think we'll be coming back to GAO to take a look at that, you might make a mistake in judgment, a mistake in forecast, but it will not be one that is endemic in the system.

That's what we're looking at, is that you put in place all the safeguards that are possible to assure that you get to a reasonable and dependable forecast.

Now, one final question on this pay cap issue. Have you done studies, I think you indicated that there are studies but you don't say whether those are studies TVA undertook of pay levels in the private sector. In the TVA system, is pay for executives in the fossil fuel program and the hydro program different from that in the nuclear program? And how does pay for managerial positions in the TVA nuclear program compare, you say two to eight times, but you don't have any numbers in there. How much is that? And what are those numbers in the private sector for comparable positions?

Mr. RUNYON. Mr. Oberstar, I don't have it with me. I'll be glad to submit it for the record. But we have had Hague Associates, who are salary consultants, who also are consultants on performance measures and how you rate various classifications, coming to TVA, and they have made a complete study for us. I'll be glad to submit those records for you. They go up somewhere in excess of $400,000 for jobs that we have. They had something like in excess of a hundred jobs over the pay cap.

Mr. OBERSTAR. Well, if you would——

Mr. RUNYON. I'll be glad to submit that for the record.

Mr. OBERSTAR [continuing]. Submit that information. I think we would like to review the documentation that you develop. This is a very important issue that came up in this committee in this very room back in December in the Reconciliation Act, and our part of the Reconciliation Conference, and the Public Works Committee staff, I was a conferee on that subject enough to try to resolve this matter of the pay cap. And we came up against some real problems. We didn't have any numbers, didn't have any solid basis of comparison. There was the concern that TVA is paying people one level and the rest of the Federal Government is paying at a different level. If you do this, and, of course, your point is, and it was made by our colleague, former colleague of this committee, and now in the Senate, John Breaux, that TVA personnel are not civil service except for you folks on the board. That is a matter that needs to be taken into consideration. But we really need to have some very solid, dependable information that can be viewed so that, if that is the heart of your issue, being able to track and retain qualified personnel, it would take more than quality of life to get them to come in and do that work. We've got quality of life all over the country. We have it in northern Minnesota.

Mr. RUNYON. That's right.

Mr. OBERSTAR. We don't have nuclear power plants up there. If we had, we'd have to be paying them comparable salaries. So I'd like to see what you've done in that respect.

We may get to that issue later, but you send us that information.

[The following was received from TVA:]

POSITIONS IMPACTED BY THE PAY CAP

(NUCLEAR)

Prepared January 11, 1988

Updated April 11, 1988

TVA Position Title	TVA Salary	Post Recovery * Market Average Salary Range Midpoint
Manager, Nuclear Power	Contractor*-$355,200	$224,244
Deputy Manager, Nuclear Power (Operations)	74,200	149,784
Deputy Manager, Nuclear Power (Engineering & Construction)	74,200	129,956
Assistant Manager, Nuclear Power	74,200	No Data
Director, Nuclear Construction	74,100	98,524
Director, Nuclear Engineering	74,100	97,226
Director, Nuclear Quality Assurance	Contractor*-$243,504	79,452
Director, Site (Bellefonte)	74,100	93,791
Director, Site (Sequoyah)	74,100	93,791
Director Site (Watts Bar)	Contractor*-$249,996	93,791
Director Site (Browns Ferry)	Contractor*-$225,600	93,791
Director, Nuclear Manager's Review Group (NMRG)	74,100	No Data
Director, Nuclear Services	74,100	No Data
Director, Division (Nuclear Safety & Licensing)	Contractor*-$207,996	No Data
Chairman, Nuclear Safety Review Board (NSRB)	74,100	No Data

Deputy Director, Site	74,100	No Data
Manager, Project (WBN Construction)	74,100	90,598
Manager, Projects	Contractor*-$192,000	No Data
Manager, Program (Welding)	Contractor*-$242,760	No Data
Manager, Program (Contracted Engineering Services)	Contractor*-$142,992	No Data
Manager, Nuclear Maintenance	74,100	81,233
Manager, Planning and Financial Staff (Nuclear)	74,100	No Data
Manager	Contractor*-$207,996	No Data
Chief Electrical Engineer	70,115	85,420
Chief Mechanical Engineer	70,115	84,132
Chief Nuclear Engineer	73,000	82,053
Project Engineer	73,000	80,882
Project Engineer	73,000	80,882
Project Engineer	73,000	80,882
Project Engineer	68,000	80,882
Project Engineer	68,000	80,882
Manager, Construction (Nuclear)	70,115	90,598
Manager, Construction (Nuclear)	70,115	90,598
Asst. Plant Manager, (Nuclear)	Contractor*-$240,000	No Data

* This salary data reflects the prevailing market rate for these jobs. However, due to the recovery effort in the nuclear program, TVA has had to recruit above the market rate in some cases.

Market Data References

Hay Management Consultants - Atlanta - James Rolen

Mercer - Meidinger - Hansen; Finance, Accounting and Legal Compensation Survey Results, 1987 (March 1987)

ASPA - Hansen; Human Resource Management Compensation Survey Results, 1987 (February 1987)

Arthur Young, The 1987 National Survey of Executive Compensation (April 1987)

Organization Resource Counselors, Edison Electric Institute Nuclear Survey (November 1987)

Organization Resource Counselors, Edison Electric Institute Management, Administrative and Professional Survey, (October 1987)

POSITIONS IMPACTED BY THE PAY CAP
NON-NUCLEAR

TVA Position Title	TVA Salary	Market Salary Range Minimum	Midpoint	Maximum
Manager Office of Power	$77,300	$204,088	$255,110	$306,132
Assistant Manager	77,200	133,653	167,066	200,479
Assistant General Manager	77,300	128,593	160,741	192,889
General Counsel	77,300	128,593	160,741	192,889
Manager Corporate Services	77,300	128,593	160,741	192,889
Inspector General	77,300	118,473	148,091	177,709
Manager, Employee Relations	Vacant	118,473	148,091	177,709
Mgr. Office of A&CD	77,300	118,473	148,091	177,709
Mgr. Office of NR&ED	77,300	118,473	148,091	177,709
Director Fossil & Hydro	77,100	115,032	143,790	172,548
Mgr. Office of Govt & Public Affairs	77,300	113,818	142,272	170,726
Mgr. Policy, Planning & Budget	77,300	113,818	142,272	170,726
Director Pwr. Eng. & Const.	77,200	110,377	137,971	165,565
Assistant Manager	77,200	98,233	122,791	147,349
Assistant Office Manager	77,200	98,233	122,791	147,349
Director Management Sys.	77,200	98,233	122,791	147,349
Director Operations Supp.	77,200	98,233	122,791	147,349
Director Purchasing	77,200	98,233	122,791	147,349
Director Pwr. Sys. Ops.	77,200	98,233	122,791	147,349
Comptroller	77,100	94,792	118,490	142,188
Dir. Energy Demo. & Tech.	77,100	94,792	118,490	142,188
Medical Director	77,100	94,792	118,490	142,188
Director Cons. & Eng. Mgt.	77,100	87,607	109,508	131,410
Director EU&DR	77,100	87,607	109,508	131,410
Director Air & Water Resc.	77,100	85,279	106,599	127,919

POSITIONS IMPACTED BY THE PAY CAP
NON-NUCLEAR

TVA Position Title	TVA Salary	Market Salary Range		
		Minimum	Midpoint	Maximum
Director Land & Econ. Resc.	$77,100	$ 85,279	$106,599	$127,919
Director Prop. & Services	77,100	85,279	106,599	127,919
Director of Personnel	77,100	84,571	105,713	126,856
Director Tech. Develop.	77,100	84,571	105,713	126,856
Treasurer	77,100	84,571	105,713	126,856
Chief Economist	77,100	82,041	102,551	123,061
Director Research	77,100	82,041	102,551	123,061
Chief Budget & Perf. Ana.	77,100	77,386	96,732	116,078
Director Dev. Production	77,100	76,171	95,214	114,257
Director Environ. Qual.	77,100	75,665	94,581	113,498
Director Occ. Health & Saf.	77,100	75,665	94,581	113,498
Director LBL	77,100	73,641	92,051	110,462
Director EEO	77,100	73,338	91,672	110,006
Director Labor Relations	77,100	73,338	91,672	110,006
Director Industrial Devel.	77,100	67,873	84,841	101,809

This list was compiled by Hay Management Consultants. Market Salary Range is the range recommended by Hay based on comparison of TVA job evaluations with other utilities.

3772R

A Report on Urgent Need to Improve TVA Power System Pay Problems

TVA today is faced with its greatest challenge since its formative years in the 1930s. Putting the nuclear power program back "on track" and effectively managing the power program as a whole will determine the way TVA survives into the future.

TVA is committed to using one standard for setting the compensation of all employees--that is, the prevailing rate paid by employers for comparable positions in the appropriate labor market. The TVA Act provides this as the standard for setting wages of trades and labor employees, and TVA's collective bargaining agreements prescribe this standard. TVA also strives to establish managers' compensation on that basis. This standard has served TVA well over the years, permitting it to recruit and retain a work force of competent, trained, and dedicated employees at all levels. But many top TVA executives do not receive the prevailing compensation for their work, or anything approaching it. TVA Board members' salaries, set in the traditional Government-wide pay setting process, cap the salaries TVA can pay its employees. The prevailing salaries in private industry for some TVA executive positions are far more than TVA can pay. Attachment 1 details the salary disparity for key TVA positions.

In January 1986 TVA contracted with an outside company to provide services to manage TVA's nuclear power program at a cost well in excess of what would be needed to hire our own talent. We have seen that this approach requires us to contract for services of loaned managers from the nuclear industry to help in the recovery plan for the nuclear program. The pay for these loaned managers ranges from $95,000 to $200,000 per year. This is the market rate for individuals having the skills and experience required to manage a nuclear power generation program. This is a short term solution. It is our goal to replace these consultants and loaned managers with regular TVA personnel and return the management of the nuclear power program to regular employees of TVA. We are attempting to recruit and/or train individuals for these positions.

Realizing problems in its management ranks, TVA has begun programs to develop the potential of its managers. Many actions are being taken. In the past year TVA has instituted or is developing (1) mandatory training in supervisory skills for all levels of management; (2) a development program for key executives; (3) mandatory skills assessment and individual development programs for all levels of managers; (4) succession planning to prepare managers to assume higher level positions; and (5) an intensive recruiting effort to employ additional qualified managers.

Immediately TVA must solve the nuclear problem by getting the nuclear power plants safely operable and back "on line." In some instances this will require recruiting managerial talent. It is obvious that we will not be able to recruit to fill immediate openings or even retain all the qualified managers we now have if we are limited to salaries at or below the Federal pay cap.

The challenge facing the TVA power system is to meet, as safely as possible, the power requirements of the TVA service area at the lowest feasible cost. Because of the money that can be saved for the ratepayers by the correct management actions and the large amounts that can be lost by the wrong decisions, each aspect of meeting this challenge requires the best management talent available. These managers are not readily interchangeable with executives inexperienced in utility management nor are they comparable to most executives in the Federal sector.

The challenges facing TVA are imposing.

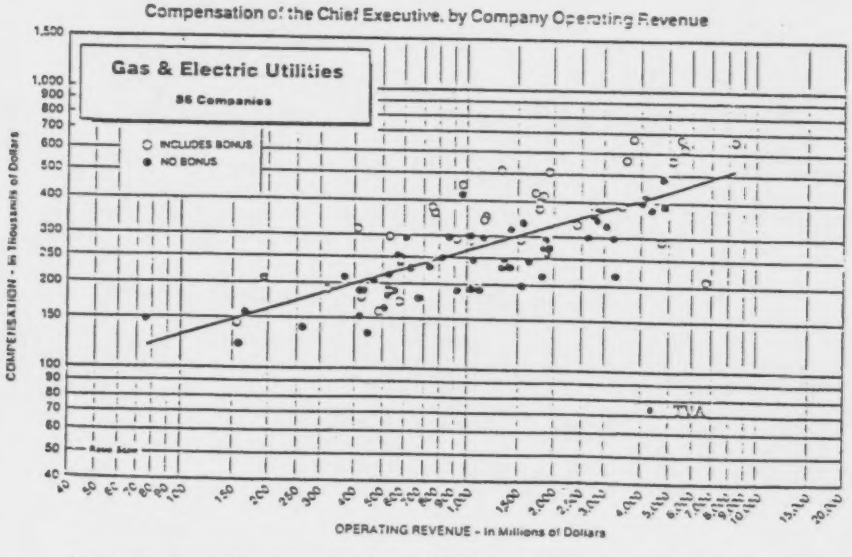
TVA's coal-fired plants are aging, and are now carrying the heaviest part of our generation load. We operate the nation's most efficient fossil-fired plant, and we need to keep our record as good in the future as it has been in the past.

The challenges TVA faces in its nuclear program do not need to be enumerated. But clearly, while there were many different causes for the current problems, we cannot solve them on a long-term basis without dealing effectively with the salary cap issue.

Nuclear safety is as much a function of competent management as fail-safe equipment. Having built these plants in the Tennessee Valley, TVA has an enormous responsibility to operate them as safely as possible.

These TVA jobs require many years of experience and the marketplace has placed a value on these people far in excess of their TVA salaries. The power system is one of the most complex systems in the country managed by a single organization; few private corporations are bigger than TVA; and few entities—public or private—have such an important impact on the daily lives of as many people as TVA.

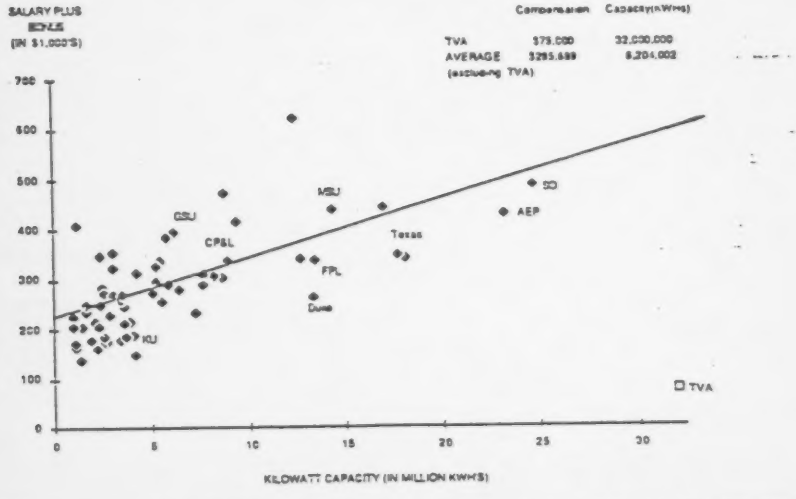
In the utility industry, as elsewhere in the private sector, a direct correlation exists between the size of the job and the size of the reward. That correlation is well-established by compensation studies, including those done annually by The Conference Board. The chart below graphs the compensation of the top executive at 86 electric utilities in comparison with the size of the company for which those executives are responsible in terms of operating revenue. Look closely--TVA is the one in the lower righthand corner, clearly out of line with the normal relationship of size, complexity, responsibility, and salary.


Compensation of the Chief Executive, by Company Operating Revenue
Gas & Electric Utilities
86 Companies
INCLUDES BONUS
NO BONUS
TVA
COMPENSATION - In Thousands of Dollars
OPERATING REVENUE - In Millions of Dollars

From Top Executive Compensation—1987 Edition (data based on 1985 operations) Conference Board. TVA added.

The salary disparity between TVA and its competitors in the labor market is even more obvious when salaries are compared to generating capacity—a truer indication of size than operating revenue. The following chart graphs salary plus cash bonus of chief executive officers of utilities against installed generating capacities for their companies. We have labelled other southern utilities (a list of all utilities in the chart is included as attachment 2). TVA is the biggest electric utility in the country. Its top pay is approximately one-fourth of the average shown.

KILOWATT CAPACITY AND SALARIES

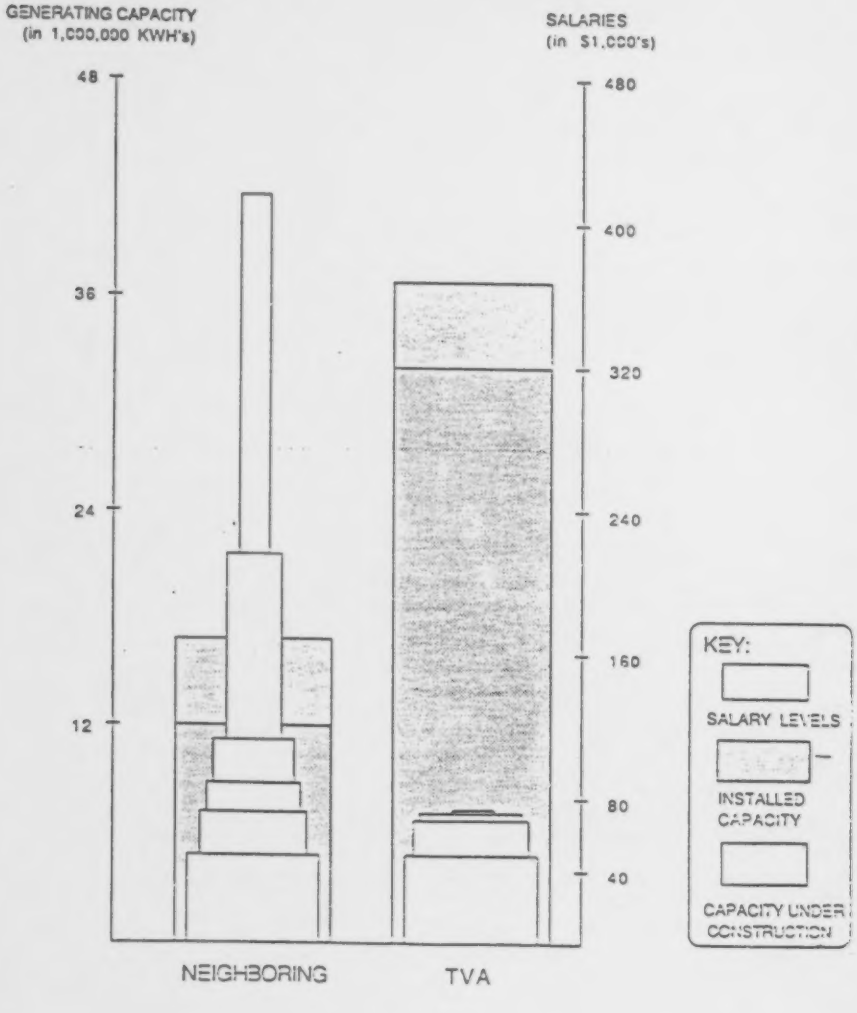


For the most part, TVA is able to adequately compensate its employees up through middle management. For example, pay compression does not tend to be a problem in the fossil/hydro power program up to the plant manager positions. This is a major reason why we are able to run the fossil and hydro plants safely and efficiently as pointed out in a letter from Senators Sasser and Gore. However, we are facing a certain future problem in these programs because these plant managers are the experienced pool for senior managers needed to fill positions necessary to run the corporate power business of TVA. There is little incentive for one to uproot families and homes when the total compensation increase from plant manager to manager of the entire power program is so small. In addition, we have no way of knowing how many aggressive junior engineers leave TVA early in their careers after realizing the limitations on their futures. These people could have become TVA's top managers of tomorrow.

The problem in the nuclear power program is even more severe. This industry demands a larger number of qualified managers in fields of expertise not required in the fossil/hydro programs. Even in those fields of expertise which are similar to those in the fossil program the qualifications, experience, and training are more demanding and consequently are more in demand throughout the nuclear industry. This demand carries with it compensation levels which TVA simply cannot match with present limitations.

It is unrealistic to expect a highly qualified and competent manager to work for a salary which is $20,000 to $70,000 less than could be earned elsewhere. It has been demonstrated by the loaned managers currently working at TVA, that competent nuclear program managers come high. These are employees from the nuclear industry and are being well paid by their parent companies.

A striking example of the lack of comparability of salaries and responsibilities is shown on the following chart. It compares TVA with a neighboring southern utility in terms of both salary levels and generating capacity. The comparison can be stated simply: TVA has nearly three times the capacity; our competitor pays five and one-half times the salary for its top-level position.

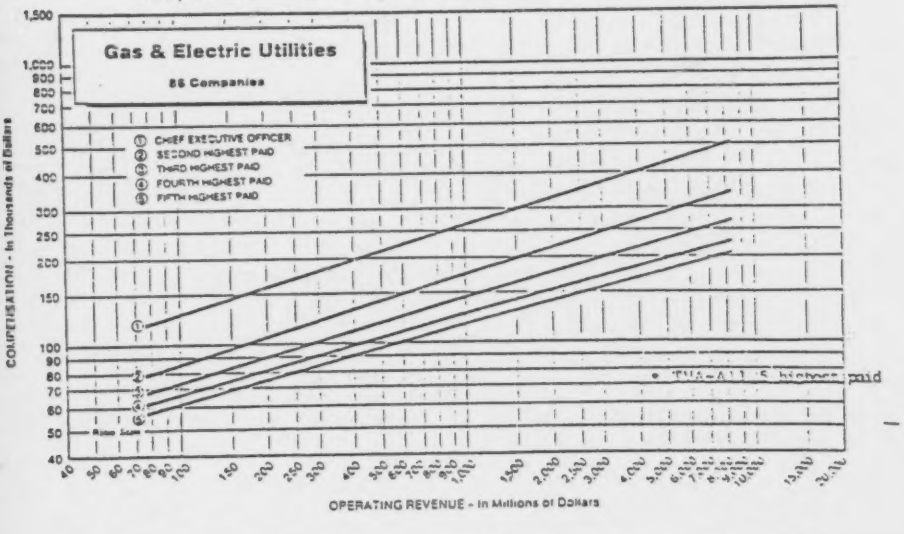


We realize, of course, that we cannot match the market salaries for all senior managers in the power programs, particularly for the top few executives. These positions will continue to be a potential problem until the salary cap is lifted. However, we believe that we can retain competent, qualified managers in these top positions at salaries marginally below market value if we can approach market values in positions immediately below the top executives, and demonstrate by our tangible efforts a willingness to try to solve the top management salary issue.

In TVA's efforts over the years to pay as many managers as possible prevailing rates, lower level managers' salaries have been adjusted upward; this in turn has eliminated much of the salary differential in the chain of command; the salaries of TVA managers are bunched together at the top.

Top TVA pay levels are tightly compressed and the pay differential of top TVA executives over subordinate managers and rank and file employees is much too small. Many private companies calculate executive salaries as a percentage differential over the salary of the level supervised. For example, in utilities the chief operating officer receives a salary that averages 69 percent of the chief executive officer's salary. On the average, an executive vice president receives 56 percent of the chief executive officer's salary. In TVA, those differentials are 98 percent and 97 percent, respectively. The chart below graphically displays the utility industry's salary differentials, and TVA's compression.

Compensation of the Five Highest Paid Executives, by Company Operating Revenue


Gas & Electric Utilities
86 Companies
① CHIEF EXECUTIVE OFFICER
② SECOND HIGHEST PAID
③ THIRD HIGHEST PAID
④ FOURTH HIGHEST PAID
⑤ FIFTH HIGHEST PAID
COMPENSATION - In Thousands of Dollars
OPERATING REVENUE - In Millions of Dollars

From Top Executive Compensation—1987 Edition (data based on 1985 operations) Conference Board. TVA added.

At the same time, TVA does not have the perquisites to offer top executives which are common in private industry. Although the utility industry is conservative in its executive perks, such things as low-interest loans, country club memberships, cars, etc., are common, and are part of a total compensation package. Approximately one half of private utilities have executive bonus plans, in addition to salary, that pay bonuses with a median value in 1985 of 26 percent of salary.

There is a tangible disincentive for TVA's better lower-level employees to accept higher-level jobs, since the increase in pay between these levels is not at all commensurate with the increase in responsibility. These persons are precisely the ones most likely to be attracted by outside offers where their superior talents can be more adequately recognized and rewarded.

Meeting market values at lower positions in the structure will permit us to recruit, train, and retain a management pool from which the top senior managers can be selected. Moving through those preparatory positions to the top executive jobs usually takes several years at which stage company loyalty, job challenge, geographic location, and position prestige might be a major substitute for higher salaries found in comparable positions in the private sector.

These nonmonetary factors are not as important to younger, ambitious, junior and midlevel managers who, while seeking a career path leading to more responsibility, may place a great deal of importance on the compensation associated with the responsibility. These are the bright young people who have not put down deep roots and do not hesitate to make a career change for better opportunities. In most cases the largest opportunity is being able to make more money.

We have so far been successful in retaining these junior and mid-level managers in the fossil/hydro power programs because we do pay market salaries except in the very top positions. Such is not the case in the nuclear program because market value deviations occur at lower management levels in this industry. In addition, as pointed out earlier, the nuclear industry requires a greater variety of disciplines and a greater number of managers at the junior and mid-level positions. As is obvious, we have not recruited or retained a sufficient number of bright, less senior managers to gain the experience to move into more and more responsible positions in the program. The inability to compensate at a level comparable to industry has been a very large factor in the absence of an adequate management pool in TVA.

What do others say about the salary issue?

The President's Nuclear Safety Oversight Committee (established in the wake of the Three Mile Island accident) in its April 17, 1981 report to President Reagan stated:

> . . . only the operating utility can ultimately assure safe operation; regulatory schemes can never be a substitute for strong utility management with high technical competence at all levels of plant operation.

The Senate Committee on Environment and Public Works in its 1981 oversight report on TVA said:

> To keep power rates as low as possible, TVA must retain its best power system professionals and executives . . . Because TVA's power program competes with private industry for talent in fields that suffer from a shortage of skilled personnel and which pay much higher salaries than TVA, the Committee believes that TVA needs to strengthen its compensation programs applicable to these employees.

The transition team report prepared for President Reagan by Robert L. Sansom in March 1981 entitled "Major Policy Issues Facing the Tennessee Valley Authority and Its Ratepayers" concluded

> TVA's salary structure needs an overhaul. Top-level executives who manage $5 billion in assets with another $12 billion in construction need to be compensated accordingly.

A team from the President's Private Sector Survey on Cost Control (the "Grace Commission") studied TVA in 1982-83 and reported:

> Since TVA management salaries are well below salaries in the private sector, investor-owned utilities actively recruit TVA managers. However, due to the size, complexity and long learning curve required by TVA management positions, as well as TVA's inability to offer competitive salaries, TVA can rarely recruit managers from outside the TVA system . . . High turnover rates have led to less stability in management ranks, particularly in crucial positions in the nuclear power and engineering design and construction programs.
>
> The Administration should approach Congress for legislation to allow TVA to increase management salaries . . . The potential benefits in terms of increased efficiencies, safety improvements, and management effectiveness are enormous.

The problem is obvious, and well recognized. We simply cannot compete for the necessary talent with our hands tied by artifical constraints.

Attachment I

LABOR MARKET SALARY DATA

NUCLEAR POWER PROGRAM

TVA Position & Salary	Industry Salary Range Minimum	Midpoint	Maximum
Manager of Nuclear Power - $74,300	164,520	205,644	246,768

This data was obtained from a private utility and is the closest matched position.

A typical title for this position is Executive Vice President, Engineering, Construction, and Production Group. Incumbent has overall managerial responsibility for the company's design engineering function (including fossil and nuclear plants), plant construction, modification, and maintenance; nuclear production; fossil production; and production support including biology, chemistry, health physics, etc.

TVA Position & Salary	Industry Salary Range Minimum	Midpoint	Maximum
Assistant Manager of Nuclear Power (Operations) - $74,200	112,000	140,000	168,000

This data was obtained from the Edison Electric Institute Nuclear Survey.

The typical utility title is Vice President, Nuclear Production Department. Incumbent has overall responsibility for the company's nuclear generation function. This includes operation, maintenance, and general administration of power plants.

TVA Position & Salary	Industry Salary Range Minimum	Midpoint	Maximum
Assistant Manager of Nuclear Power (Engineering & Construction) - $74,200	100,175	125,025	150,000

This data was obtained from a special survey conducted for TVA by Organization Resource Counselors.

The typical industry title for this position is Vice President of Engineering and Construction. The incumbent has overall responsibility for the organization's engineering and construction activities.

TVA Position & Salary	Industry Salary Range		
	Minimum	Midpoint	Maximum
Director of Nuclear Construction - $74,100	76,848	94,803	112,757

This data was obtained from the Edison Electric Institute Nuclear Survey and from private utilities.

The typical industry title is Vice President of Construction. Incumbent has overall managerial responsibility for the organization's construction activities including new plant construction and modifications.

TVA Position & Salary	Industry Salary Range		
	Minimum	Midpoint	Maximum
Director of Nuclear Engineering - $74,100	69,727	87,177	104,627

This data was obtained from various private utilities.

The typical utility title is Manager of Nuclear Engineering. Incumbent has overall responsibility for engineering activities involved in the development, design, modification, and operations of the organization's nuclear generating facilities.

TVA Position & Salary	Industry Salary Range		
	Minimum	Midpoint	Maximum
Site Director - $74,100	73,800	89,765	105,715

This data was obtained from a special survey conducted for TVA by Organization Resource Counselors and from private utilities.

Typical industry titles are Site Vice President or Site General Manager. The incumbent is responsible for all activities on the nuclear site including plant generation, modifications/engineering activities, and maintenance.

TVA Position & Salary	Industry Salary Range Minimum	Midpoint	Maximum
Project Manager, Nuclear Construction Site - $74,100	69,000	87,160	104,320

This data was obtained from the Edison Electric Institute Nuclear Survey and various private utilities.

A typical title is Project Manager. Incumbent has overall responsibility for all construction activities, design changes, project scheduling, and cost control in the construction of a power generating facility.

TVA Position & Salary	Industry Salary Range Minimum	Midpoint	Maximum
Nuclear Plant Manager - $73,000	63,788	79,740	95,692

This data was obtained from the Edison Electric Institute Nuclear Survey and several private utilities.

The typical utility title for this position according to the Edison Electric Institute Utility Survey is Nuclear Power Station Manager. Incumbent has managerial responsibility for the operations and maintenance activities at a nuclear generating facility. Conducts and coordinates meetings with inspectors for the Nuclear Regulatory Commission to determine whether the plant operations are in compliance with the operating license.

TVA Position & Salary	Industry Salary Range Minimum	Midpoint	Maximum
Manager of Engineering Projects - $74,100	63,516	79,406	95,295

This data was obtained from a special survey conducted for TVA by Organization Resource Counselors.

A typical industry title is Engineering Projects Manager. Incumbent has managerial responsibility for all engineering design activities for specific engineering projects. This includes technical oversight, project scheduling, and cost control.

TVA Position & Salary	Industry Salary Range		
	Minimum	Midpoint	Maximum
Manager of Engineering and Technical Services - $74,100	62,781	78,476	94,171

This data was obtained from a special survey conducted for TVA by Organization Resource Counselors.

This title is typical to the industry. Incumbent provides a variety of services to the engineering organization such as data processing support, computerized graphics, automated recordkeeping, and document control.

TVA Position & Salary	Industry Salary Range		
	Minimum	Midpoint	Maximum
Construction Project Manager - $70,115	60,793	75,748	90,704

This data was obtained from the Edison Electric Institute Nuclear Survey and from various private utilities.

The typical industry title is Construction Manager. Incumbent has responsibility for all construction activities including planning, scheduling, cost control, and general administration needed in the construction of a nuclear generating facility.

TVA Position & Salary	Industry Salary Range		
	Minimum	Midpoint	Maximum
Director of Nuclear Quality Assurance - $74,100	59,916	74,892	89,869

This data was obtained from the Edison Electric Institute Nuclear Survey.

The typical industry title for this position is Manager of Quality Assurance. Incumbent directs the quality assurance, quality control, and inspection functions related to quality assurance in the design, procurement, construction, and operation of nuclear plants and related equipment.

*Salary data was obtained from: (1) Edison Electric Institute; (2) Organization Resource Conselors; (3) Towers, Perrin, Forster, and Crosby Utility Survey; (4) Georgia Power; (5) Duke Power; (6) Carolina Power and Light; (7) Mississippi Power; (8) Florida Power and Light.

NON-NUCLEAR POWER PROGRAM
(Includes Fossil/Hydro Power and all other Corporate Power Responsibilities)

TVA Position & Salary	Industry Salary Range		
	Minimum	Midpoint	Maximum
Manager of Power - $74,300	206,205	257,757	309,309

This data was obtained from the Towers, Perrin, Forster, and Crosby Utility Survey.

A typical industry title for this position is Manager of Power. Incumbent has overall managerial responsibility for the power production function, transmission and distribution function, and all marketing and rates activities.

TVA Position & Salary	Industry Salary Range		
	Minimum	Midpoint	Maximum
Assistant Manager of Power (Operations) - $74,200	102,513	143,013	177,874

This data was obtained from the Edison Electric Institute Survey.

The typical industry title for this position is Vice President, Fossil Production. Incumbent has full responsibility for the operation, maintenance and general administration of the organization's fossil power plants. The incumbent also has responsibility for system load, dispatching, and interconnected pool requirements.

TVA Position & Salary	Industry Salary Range		
	Minimum	Midpoint	Maximum
Assistant Manager of Power (Energy Use) - $74,200	93,098	116,600	140,105

This data was obtained from the Organization Resource Counselors survey conducted for TVA.

A typical title for this position is Vice President, Energy Use. Incumbent has overall responsibility for the marketing, distribution and customer service activities as well as contract relations with power distributors and industrial users.

TVA Position & Salary	Industry Salary Range		
	Minimum	Midpoint	Maximum
Director of Fossil and Hydro Power - $74,100	78,796	97,305	116,623

This data was obtained from the Organization Resource Counselors Survey conducted for TVA.

A typical industry title for this position is General Manager, Fossil and Hydro Operations. Incumbent has managerial responsibility for the operations, maintenance, and general administration of the organization's fossil and hydro generating facilities.

TVA Position & Salary	Industry Salary Range		
	Minimum	Midpoint	Maximum
Director of Operations Support - $74,100	105,898	131,284	156,670

This data was obtained from the Organization Resource Counselors Survey conducted for TVA

A typical industry title for this position is Vice President, Production Support. Incumbent has managerial responsibility for all warehousing activities, overall materials management, and for various laboratories and testing facilities needed to support the power production effort.

TVA Position & Salary	Industry Salary Range		
	Minimum	Midpoint	Maximum
Director, Power Systems Operations - $74,100	74,013	92,949	111,692

This data was obtained from the Edison Electric Institute Management, Administrative, and Professional Survey and the special Organization Resource Counselors survey conducted for TVA.

The typical industry title for this position is Vice President, Transmission. Incumbent has responsibility for the operation, maintenance, and general administration of all distribution, subtransmission and transmission facilities.

TVA Position & Salary	Industry Salary Range Minimum	Midpoint	Maximum
Director of Energy Use and Distributor Relations - $74,100	$4,293	$9,873	$15,461

The data for this position was obtained from the Edison Electric Institute Management, Administrative, and Professional Survey, and the Special Survey conducted for TVA by Organization Resource Counselors.

The typical industry title for this position is Manager of Customer Service. Incumbent has managerial responsibility for residential, commercial, industrial, and institutional promotion of efficient energy utilization, area development and related customer service activities. This position may also have responsibility for power contracts with various industrial users and distributors.

TVA Position & Salary	Industry Salary Range Minimum	Midpoint	Maximum
Director of Conservation and Energy Management - $74,100	$6,068	$2,585	99,102

The data for this position was obtained from the special industry survey conducted for TVA by Organization Resource Counselors.

A typical title for this position is Manager of Conservation. Incumbent has managerial responsiblity for promoting the efficient use of electric power by working with distributors and customers to conserve electric power.

TVA Position & Salary	Industry Salary Range Minimum	Midpoint	Maximum
Director of Power Engineering & Construction - $74,100	64,728	80,904	97,080

The data for this position was obtained from the private utilities.

A typical job title for this position is Project Manager, Engineering and Construction. Incumbent has responsibility for non-nuclear engineering and construction activities. This includes modification and outages of fossil generation plants and the construction of various nongenerating power facilities.

*Salary data was obtained from: (1) Edison Electric Institute; (2) Organization Resource Counselors; (3) Towers, Perrin, Forster, and Crosby Utility Survey; (4) Georgia Power; (5) Duke Power; (6) Carolina Power and Light; (7) Mississippi Power; (8) Florida Power and Light.

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Attachment 2

Utility	Generating Capacity (kW)	Salary and Bonus
Allegheny Power	3,199,100	$ 225,000
American Electric Power (AEP)	23,351,000	431,000
Arizona Public Service	3,150,200	357,000
Atlantic City Electric	1,642,200	205,000
Baltimore Gas and Electric	5,557,000	338,000
Boston Edison	2,648,236	282,000
Carolina Power and Light (CP&L)	8,750,000	304,000
Central and Southwest Corporation	12,768,000	341,000
Central Illinois Public Service	2,780,000	177,000
Cincinnati Gas and Electric	4,030,250	215,000
Cleveland Electric	4,322,000	312,000
Commonwealth Edison	18,176,000	341,000
Consolidated Edison	9,451,000	415,000
Consumers Power	6,585,100	280,000
Dayton Power and Light	2,687,000	274,000
Delmarva Power and Light	2,225,000	214,000
Detroit Edison	8,852,000	472,000
Duke Power	15,421,000	264,000
Duquesne Light	3,148,000	272,000
El Paso Electric	1,122,750	226,000
Florida Power and Light (FP&L)	13,470,000	339,000
General Public Utilities	8,301,000	305,000
Gulf States Utilities (GSU)	6,250,000	394,000
Idaho Power	2,458,869	170,000
Illinois Power	3,742,000	248,000
Iowa-Illinois Gas and Electric	1,539,121	138,000
Kansas City Power and Light	2,477,000	252,000
Kansas Gas and Electric	2,083,500	181,000
Kansas Power and Light	2,581,000	188,000
Kentucky Utilities (KU)	3,496,627	180,000
Long Island Lighting	3,721,000	213,000
Louisville Gas and Electric	2,322,000	162,000
Middle South Utilities	14,409,000	441,000
New England Electric	4,239,000	147,000
New York State Electric and Gas	2,443,500	203,000
Niagara Mohawk	5,215,000	274,000
Northeast Utilities	6,044,589	289,000
No. Indiana Public Service	3,514,481	260,000
Northern States Power	5,954,900	383,000
Ohio Edison	5,402,000	295,000
Oklahoma Gas and Electric	5,656,300	295,000

Mr. OBERSTAR. The Chair now recognizes the gentleman from Tennessee.

Mr. CLEMENT. Thank you, Mr. Chairman.

Good to have you here, Admiral White, and Bob Steffy, you and I have worked together previously.

Mr. Chairman when I was on the TVA Board, I voted against each and every rate increase, this voting record concerned the forecasting that you were talking about awhile ago. At that time I said I wasn't going to vote for any electric rate increase until we curtailed part of the nuclear program. It did not make sense, even at that time, to be building 17 nuclear plants at one time. What you might be interested in is that the total cost of those so-called 17 nuclear plants at that particular time was $6 billion. The total price tag today is in excess of $30 billion, just a slight error of $24 billion.

I made it very clear to the two members of the board at that particular time, that if they were not interested in curtailing this nuclear program, I was not going to vote for an electric rate increase, because I was not going to place that burden on the rate fares in the Tennessee Valley area. And I kept that pledge, and I kept that commitment, and I voted against each and every rate increase.

I have never been a part of any agency that has more depth of knowledge and experience as does TVA. Nor have I been part of any agency that has been mismanaged as badly and as poorly as TVA. I don't know where Tennessee or the valley area would be today if it wasn't for TVA. But even being from the valley area practically all my life, I was very disappointed and discouraged at the direction of TVA at that particular time. I knew I was being outvoted two to one, but I felt like if I could get the public on my side, it would be two to two, and if I could ever get Congress' attention on these matters concerning TVA and the mission of TVA, and the direction of TVA, it would be three to two. And I feel like, over the years, that's exactly what's happened.

My first question, Admiral, is to you. I realize TVA over-projected the demand for energy just like every utility in the Nation and the world at that particular time. The only difference was TVA did even a better job of over-projecting the demand for energy for the 1980's, 1990's, and beyond than did the other utilities in the United States, as well as world-wide. But wouldn't it have been better for the United States, prior to moving toward the nuclear option, to have come up with a prototype model? What is a nuclear plant? What ought it look like? And I realize technology changes but I've also seen that the Nuclear Regulatory Commission, because of retrofitting, and because of changes and modifications, and the additional cost and whatever, but in the United States of America, if we could have ever come up with a prototype model of what a nuclear ought to be about and what it ought to look like, and what it ought to cost, then maybe we wouldn't be in this mess today where nuclear might not be an option at all.

Mr. WHITE. Certainly, Mr. Congressman, my experience of three decades in the Navy's nuclear power program, where whenever possible, we in fact built a prototype and then built that plant to go to sea, and then built a number of carbon copies of that plant. And, incidentally, that simplifies your training, your spare parts, the

construction of the plants, once you've looked at the design and it's safe. And, in fact, that's what the French have done. So I would totally agree that that would have been a smart way to start.

Mr. CLEMENT. And the nuclear option would be a viable option today.

Mr. WHITE. It would be a lot better than it is.

Mr. CLEMENT. Mr. Chairman, Chairman Runyon, I'd like to know also, since we're talking about electric rates and so forth, what percentage of people's electric bill is interest on the monies that are borrowed now?

Mr. RUNYON. Mr. Clement, that's not a number that I have in my head. I'll be glad to supply that for the record, though.

Mr. CLEMENT. I'd like very much for you to. What I'd like for you to do is provide figures, over five years, over ten years, even over 20 years—of the average electric bill, how much of that is interest over a period of time?

Mr. DEAN. Mr. Steffy has it, I think.

Mr. CLEMENT. Okay.

Mr. STEFFY. I can't tell you over year by year for a 20-year period, but it's approximately one-third. It's running about——

Mr. CLEMENT. You think around 30 percent.

Mr. STEFFY. Yes, sir, between 30 and 35 percent.

Mr. CLEMENT. Now, it was headed toward 50 percent at one time. You think it's been held around 30 percent?

Mr. STEFFY. Yes, it's about 30 percent, 33 percent now.

Mr. CLEMENT. I'd still like for you to furnish that information.

[The following was received from TVA:]

TVA INTEREST EXPENSE AS A PERCENT OF
SALES REVENUE FROM ULTIMATE CUSTOMERS

Fiscal Year	Interest Expense As A Percent Of Revenue
1968	4.91
1969	6.73
1970	9.35
1971	9.76
1972	11.65
1973	14.04
1974	16.10
1975	15.81
1976	14.78
1977	16.31
1978	17.72
1979	20.37
1980	24.66
1981	27.77
1982	29.59
1983	32.11
1984	31.05
1985	32.39
1986	32.20
1987	30.38
20-Year Average	25.65

3762R

Attachment 2

Utility	Generating Capacity (kW)	Salary and Bonus
Pacific Gas and Electric	12,483,670	619,000
Pennsylvania Power and Light	7,415,000	234,000
Philadelphia Electric	7,765,000	311,000
Potomac Electric	5,375,000	329,000
Public Service Colorado	3,022,750	230,000
Public Service Indiana	4,162,100	189,000
Public Service New Hampshire	1,236,918	165,000
Public Service New Mexico	1,340,000	407,000
Public Service Electric and Gas	8,999,000	340,000
Puget Sound Power and Light	3,839,000	187,000
Rochester Gas and Electric	1,133,000	203,000
San Diego Gas and Electric	2,549,000	349,000
Southern California Edison	17,110,000	444,000
Southern Company (SO)	24,791,421	486,000
Southwestern Public Service	3,650,247	273,000
TENNESSEE VALLEY AUTHORITY	32,000,000	75,300
Texas Utilities	17,304,000	350,000
Toledo Edison	1,753,000	235,000
Tucson Electric	1,755,332	249,000
Union Electric	1,716,000	288,000
United Illuminating	1,237,850	173,000

1012M

Mr. CLEMENT. Chairman Runyon, if you had all those nuclear plants on-line, or even if they're brought on-line in the future, I don't know what on schedule means anymore, hopefully we're going to get a favorable ruling today on the Sequoyah #2 and get that on-line as soon as possible, as long as it's done in a safe manner. But what, if you did have all the nuclear plants on-line, how much over-projection would you be, knowing that now we scaled down from 17, like we had at one time down to 9 if all of them are completed. But even with half now, if you just had nine on-line, how much additional energy would you have that you don't need?

Mr. RUNYON. To answer that question completely, we'd have to go back and make an analysis of what we would do with the remaining plants that we have. We have 11 fossil plants, and a large number of hydro plants. The hydro plants probably wouldn't be in contention too much. But the fossil plants would be in contention as to whether they would stay on-line. But assuming everything stayed on-line as it is, we would be making some power inefficiently, but I think—and I'll let Mr. Steffy give me a correct answer here. But I think we would probably be at least 40 percent more supply than we have demand.

Bob, would you give me the answer to that?

Mr. STEFFY. Yes, I think that's probably a pretty good number. At the present time, to meet our load requirements, we need three nuclear units on-line immediately, and to have the kind of reserve margins and economies that we'd like to have. So if we just at this instant brought nine of them on, we'd have six units in excess. Clearly, as Mr. Runyon said, then you get into economics of what do you do with the other system, the remainder part of your system.

Mr. CLEMENT. I know the chairman asked you awhile ago, Mr. Runyon, about management style and the direction of the future for TVA, and I sure want it to be a bright future. I sure want it to be a better-managed future, more realistic and save the rate payers some money that they otherwise don't have to pay because of poor decisions, incorrect decisions, and mismanagement.

But I know when I was there, on one board meeting I got the other two board members for one board meeting go along that any expenditure at that particular time, if it was $2 million or less, it never came before the board. And I wanted to change that from $2 million, item by item expenditure, to $100,000, and I don't think that was unrealistic, a $100,000 expenditure to come before the board, even though we might have to meet more often than every two or three weeks. I didn't see anything wrong with meeting every day, if we had to do it.

The two board members went along with me at one meeting, and then at the very next board meeting, overruled me, two to one, again and went back to business as usual.

What is your limit now, and what are you going to do about it?

Mr. RUNYON. The limits right now are different for different types of spending. There are different limits for expense spending, different limits for capital spending. What we are doing about it right now is putting together a recap of all our limits, not only for dollar limitations, but for other types of limitations that might get

into policy decisions. And we're going to look at that and make a new set of conditions under which we would allow approval to go on.

Mr. CLEMENT. I felt that the middle managers really had more authority than the board members did, because they would break it down into smaller pieces, and hundreds of millions of dollars of decisions were made that never came before the board, and it ought have come before the board, but were made at a lower level. And, sure, I want it to be as expeditious as possible, and sure, you know, I want people to be accountable and responsible. But I thought at that particular time that a lot of decisions were made and I'd like to have had a part in making those decisions, and I had never had an opportunity to make the decision, because if it was a $2 million or less expenditure, it never came before the board.

Whether it's an item of dollars or just a policy decision in terms of a decision-making policy of TVA, it would sure improve the management. What about——

Mr. OBERSTAR. If the gentleman would yield at that point. I think this question that he is raising is extremely important, it goes into the heart of whether we have a get-well plan in place and whether it reaches far enough.

Just how involved are the board members in the basic decisions of operating TVA?

Mr. DEAN. Since Mr. Clement left, the procedures for capital budgets have been modified drastically. The entire capital budget has to be approved by the board before the beginning of each fiscal year. And even then, when they institute a new project, they come by, they come to the board with it for further approval. So it's a pretty tight procedure at this point in time.

Mr. OBERSTAR. The big decisions of deciding to go ahead with these nuclear plants are made at the board level, though?

Mr. DEAN. The nuclear plants were initially ordered between 1968 and 1974 by the board. And, of course, as was pointed out, in 1982 and 1984, we cancelled four reactors each time, which left us with nine. The decision to continue the construction on the nine is certainly in the hands of the board of directors and has been.

Mr. OBERSTAR. If you aren't watching over the small stuff, it all soon gets to be big stuff. We had an experience in my State, the Board of Regents of the University of Minnesota wasn't looking closely enough; they were if watching expenditures under $2 million, so the president of the university went and remodeled the president's home for $2 million, instead of spending it on students.

Mr. CLEMENT. There's a lot of money being spent on consulting contracts. I know a lot of times in the past, and maybe Chile Dean and Johnny Waters have already corrected this, prior to you coming, but I know there was a lot of money being spent on consulting contracts that I felt the TVA employees ought to be doing. As a matter of fact, it affected the morale of the TVA employees. Everything that came down the path if we had the outside consultant to do this work. And here you had TVA employees with the expertise and the knowledge, the determination, the desire to want to do that work, and yet were never given the opportunity because we brought in these outside consultants and paid them exorbitant salaries and fees to do things that TVA employees could do.

Mr. RUNYON. I don't disagree with your philosophy that we should have inside employees do jobs that they are capable of doing. We are in the process now, in the nuclear area, however, of using outside consultants to do some of the work that we're doing on the nuclear plants, because it's a one-time proposition. And I feel very badly about going out and hiring anybody to come to work for TVA or any other outfit and have them leave where they are, leave a company with vested benefits and things of that nature, and come to work for TVA when I know I'm hiring them for only one year, and then I'm going to lay them off.

So we are taking a very good look at that. If it is a one-year project, then it's better, if we don't have the TVA person there, to use a consultant as opposed to bringing in somebody and then laying them off. I think that's very bad and will get to the morale very rapidly.

Now, where we have people qualified to do the job, we should use those people on the job.

Mr. CLEMENT. You mentioned competitive salaries awhile ago. Can we do that without amending the TVA Act?

Mr. RUNYON. We cannot pay competitive salaries without amending the TVA Act in some fashion, because the act, I can't quote it for you, but it says we can't pay people more than the directors make, which is $77,500.

Mr. CLEMENT. Are you recommending to us, then, that the TVA Act be amended?

Mr. RUNYON. No. What I am recommending is that some way we be allowed to pay employees a competitive wage.

Mr. WATERS. Mr. Clement, if I might address that issue. We are conducting a very thorough study of that now, as a matter of fact, with the help of a number of people from the Congress, and there may be ways that we can address this problem without actually going into the act. Congressman Whitten, for example, is very interested in that, and others. One of Chairman Runyon's task forces is a legislative task force. We are trying to go back and see what we need to do, what ought to be done to make us competitive in a number of areas. We're trying to find out, also, who has the authority to do this. We're surprised sometimes to find out we've got authority already to do some of these things. And certainly those are things we need to know.

So we're looking at a broad viewpoint again, and we're developing what alternative ways we have. We will be back to this committee and others with some alternatives that might be of interest to the Congress.

Mr. OBERSTAR. The time of the gentleman has expired. We will come back and indulge him in another round of questions.

How many employees does TVA have?

Mr. RUNYON. Approximately 33,000 employees.

Mr. OBERSTAR. Thirty-three thousand. What is your overall payroll?

Mr. RUNYON. I can supply that for you for the record.

Mr. OBERSTAR. You don't have that information right off the top of your head?

Mr. RUNYON. No, I don't have it in my head yet.

Mr. OBERSTAR. Is it close to $1.3 billion, something like that, in that neighborhood?

I think that the pay question is a very, very important one, a significant one, one that we will have to address further in subsequent hearings. Frankly, I would have thought that all of you would have been prepared to respond to in depth.

[The following was received from TVA:]

Question. What is your overall payroll?

Answer. TVA's total payroll in fiscal year 1987 (salary, wages, and overtime) was $1,060,242,949.

Mr. OBERSTAR. I want to come to some questions, Mr. White, that have been raised about your conduct in office, and I think that they need to be aired publicly. There are press accounts that indicate the NRC staff, Nuclear Regulatory Commission staff concluded you made, quote, "material false statements," in your letter of March 20, 1986, a year ago.

You stand by your opinion in the March 20 letter that, at that time, the quality assurance program was meeting NRC requirements.

What other comments would you make in response to those allegations?

Mr. WHITE. Mr. Chairman, in your letter of the 17th of February, you asked that I discuss the so-called Appendix B issue. Appendix B is merely a regulation on quality assurance. And I would like to submit for the record a statement on that issue. But in view of the recent events which have occurred, I would like to say a few words about it, in answer to your present question.

First of all, I have done absolutely nothing wrong. I have done nothing wrong. I am mad as hell at what is happening. Never in my life have I been so maliciously attacked over nothing, without reason and without cause.

I don't know what the hidden agenda is, but if the ultimate goal is to destroy TVA's nuclear power program, they've come very close. This issue has been—it's taken a terrible toll on both me and my family. There have been many times in the past year when I, frankly, felt I could no longer stand the vicious attacks. On the other hand, I realize that I am not—Steve White is not—the ultimate target. They know that if they can get Steve White, they can stop the start-up of the Sequoyah nuclear unit, and they know if they can stop the start-up of the Sequoyah nuclear unit, they can stop TVA's nuclear program. They know that if they can stop TVA's nuclear program, they can destroy TVA itself.

I think, viewed on even today's Washington Post article, these despicable attacks continue. I think the selective leak of portions of an unpublished report, and the timing of those leaks is much more than coincidental. The last time leaks occurred was immediately prior to a scheduled NRC Commissioners' vote on the start-up of Sequoyah. It is more than suspicious and certainly not coincidental that the leak this morning occurred on the day of the scheduled vote for the start-up of Sequoyah.

I truly don't know the motives. Why would anyone go to these lengths to destroy the TVA nuclear program or TVA itself? I frankly am at a loss to explain to you. But, along with my state-

ment, I would like to submit a recent series of news articles that I think shed light on what possibly is behind this effort.

Mr. OBERSTAR. We will receive the news articles and view them for appropriateness and include them in the record.

Mr. WHITE. I think, I might add on Appendix B. It is a very complex subject, and now I'll come to the heart of your question.

I am told that the NRC has never asked the question of compliance with that regulation of any utility in this country to date, any nuclear utility. There is no precise legal definition as to what compliance with the regulation means. Competent experts have always disagreed on, among themselves, what compliance means.

In summary, it is a very judgmental and complex issue.

Now, there are a number of illustrations that support my position. You said, Mr. Chairman, the NRC "had determined." The NRC has not made that determination, from all I can glean from the press reports. I think it is interesting that three former senior, high-level officials in the NRC, with oversight over TVA, were never interviewed, were never interviewed in this matter. It's much more suspicious when you determine that those three high-level key experienced managers voluntarily came forward with sworn statements supporting my position in stating that there had been no material false statement. And I believe they were on the NRC committee at the time with oversight of TVA. And one even added that my statement was not capable of misleading a reasonable NRC expert. So I think it's peculiar they were never interviewed. I think it's even more peculiar that even to this date, after they have stepped forward with sworn statements, they've never been interviewed by the NRC Office of Investigations.

As another example of an NRC staff paper to the commissioners that only recently came to light, the NRC staff said, and let me quote this sentence. This is a paper from the staff to the commissioners on this issue. Quote, "The NRC staff also said that TVA has had a number of deviations from Appendix B, but that current programs in large part meet Appendix B criteria."

That statement is almost precisely the statement that I made in my initial report to the NRC.

Isn't it peculiar that, within two months after NRC made that staff statement to the commissioners, that the NRC Office of Investigation launched a year-long investigation into this matter? In essence, investigating me for the same statement that their staff made to the commissioners.

Recently, the NRC convened, as I understand from press reports, a group of eight technical and legal experts from the NRC, eight technical and legal experts, to review this report. Seven of the eight concluded that there had been no wrongdoing on my part or TVA's part. Seven out of eight. That's in direct contradiction to the conclusions drawn by the Director of the Office of Investigations.

Let me say again, I have done absolutely nothing wrong, and, in my opinion, this whole thing stinks. There is clearly something amiss here which could have a profound effect, a very profound effect on the future of TVA.

Mr. OBERSTAR. Admiral, you've used the word "they" in describing enemies of the TVA nuclear program. Who are the "they"?

Mr. WHITE. In the articles which I will submit for the record, the names that are mentioned in those articles are Mr. Chafin, Mr. Stockton, Mr. Meyers, who are staff members on a committee here in Congress, and Mr. Ben Hayes, who is the Director of the Office of Investigations. But you can, you know, read those articles for yourself. Those are the names I believe that are mentioned in there.

Mr. OBERSTAR. Do you have, or have you seen, a copy of the NRC staff report?

Mr. WHITE. I have not. We have made numerous requests; TVA has made numerous requests, and, in fact, this morning, this afternoon at this hearing, one of the reporters here said to me, Do you have a copy, and I said no, and he said everyone in town has it. I have not seen nor read that report.

Mr. OBERSTAR. Not everyone in town has it, because the NRC, although I didn't get to talk to anybody on the regulatory commission, did not provide our staff, prior to the hearing, in a request that staff made, for a copy of that document. So we were not able to get it. I don't know who everybody in town is. We aren't one of them, although we are going to—I just didn't have time to get too personally involved in it, but we'll get ahold of them.

Meanwhile, there are press accounts about the NRC staff and what they did or didn't do, a report that indicates the NRC staff neglected to interview a Mr. Darrel Eisenhut, former Deputy Director of the Nuclear Reactor Regulation staff at NRC, and the story is that he feels you didn't mislead NRC in your March 20 letter.

Are you aware of that, and secondly, are you aware that the NRC neglected to interview former NRC officials, Mr. Richard Vollmer and John Olshinski, who also reported to determine that your March 20 letter was not intended to mislead the NRC?

Mr. WHITE. Yes, I am. I am familiar with that. I have read those three sworn statements. Those are three of the people who were high-level officials in the NRC at the time I submitted the letter. In fact, one of those individuals is the person who sent TVA the initial letter requesting the answer and who reviewed the answer when it came back along with the other two that you mentioned.

Mr. OBERSTAR. Well, there are other accounts that indicate that there are several experts whom you have identified to the NRC as having reviewed the Watts Bar study prior to the letter you sent on March 20th two years ago, who have denied having seen the study.

How do you explain that discrepancy?

Mr. WHITE. Without having seen the report and the precise words, I only go—it's very hard to defend oneself. I can only go by the press reports. And, frankly, it depends on what question you ask. If the question was asked of those individuals, "Did you review with Mr. White the issues and the enclosures to that letter that was submitted," I am confident that those people would say, "Yes, because we spent hours reviewing them." So I don't know even what the reference to the report means. So it is very difficult to defend oneself against, perhaps, statements made out of context. I simply don't know.

Mr. OBERSTAR. All of us can understand, who serve in public office, especially an elective office, being on the receiving end of al-

legations, statements, not having the context, and having words taken out of context, having done interviews only a part of which appears. I mean, there are all sorts of situations. Let's get behind them. There's another, I wanted to get your side of the story, get it out on the record, in response to those allegations. I think that's important, too. But we are not going to resolve that matter in this hearing.

What I want to do is get behind that, get deeper than that issue.

What is at stake here is whether the Watts Bar plant met Federal regulations, whether it did, whether you said it did, whether you said something which you intended to do to mislead the NRC.

Were you convinced, and on what basis, that Watts Bar was in compliance? Did you say so, to whom, and was it?

Mr. WHITE. What I was asked was—TVA was asked, in the present tense, whether that plant was in compliance. TVA was not asked whether the plant had been built in compliance. Only a week before I sent that letter, I testified in public to the NRC and told the NRC Commissioners that I was not in a position to look back to determine the condition of not only Watts Bar, but any plant, that I had not looked back. That was seven days, approximately, before I signed the letter.

When I came to TVA, TVA was already preparing a response. I provided and brought in other personnel from outside of TVA to make sure we took an objective look at whether TVA was at that time meeting those requirements. That group reported back in writing that such was the case, they found no evidence of noncompliance, based on 11 questions or perceptions that had been raised. In other words, the letter makes clear that in 60 days I certainly had not gone and looked at ten or so years of construction, nor had I even looked at everything that was at Watts Bar. In other words, TVA had an approved quality assurance program in place. Some people had raised questions about it. We brought in outside people to determine if those questions, those perceptions were valid, and they came to the conclusion in writing that they were not.

I stand by that letter today as I did then. Now, I would also say to you it would have been foolhardy, for me or anyone else, to have stated that anyone knew the condition of Watts Bar. For example, there was a welding review in progress I knew would take well over a year to complete. I couldn't possibly, at that point in time, indicate that I knew the welding that had gone on in Watts Bar.

Mr. OBERSTAR. The welds were one of the key issues, as I recall.

Mr. WHITE. Welding was one of the key issues, that's correct.

Mr. OBERSTAR. Besides, doesn't the NRC do its own—I mean, they aren't going to take your word and say, well, all right, the manager of the plant says it's OK—I mean, they do their own inquiry, don't they?

Mr. WHITE. Oh, certainly they do. In fact, in one of those sworn statements, one of the individuals stated that NRC knew more about Watts Bar than did TVA, in one of those three sworn statements.

Mr. OBERSTAR. How long had you been on board before you made that presentation?

Mr. WHITE. About two months.

Mr. OBERSTAR. Certainly not in a position to review, as you said, all the previous history or visited physically the plants?

Mr. WHITE. No, I was in no position, that's correct. And, as I say, I testified publicly a week before this letter went in saying that.

Mr. OBERSTAR. As we speak, there is, or my understanding is that there is a meeting of the NRC to review the Sequoyah plant, as I recall. Is that correct?

Mr. WHITE. That is correct.

Mr. OBERSTAR. How do you expect that decision to come out?

Mr. WHITE. Well, based on the NRC inspections, I fully expect a five to zero vote authorizing start-up.

Mr. Chairman, let me also say, because you did ask the question of Watts Bar. The issue isn't Watts Bar, in my opinion, it's never been Watts Bar. There isn't any fuel in that plant. There is no danger to the public health and safety. Whether or not I had initially answered the question, we were or were not in compliance with that regulation, wouldn't have changed anything that I've done. Watts Bar has never been the target, in my opinion. It's been Sequoyah, and I think recent events clearly show that.

Mr. OBERSTAR. Do you expect Watts Bar to be brought into compliance and to be reviewed similarly by the NRC, and at what point?

Mr. WHITE. I have no way of predicting what all of our investigations of Watts Bar will turn up. I am still not in a position to say that. To date we have found nothing fatal in the design and construction. But I have convened a group of about eight individuals who have no past association with Watts Bar, who are presently reviewing what it is we need to do to determine whether the construction, the design and construction of Watts Bar is satisfactory for restart. And then bringing in eight top-level, well-known individuals from across the country to further review that report and advise me on what we need to do.

When I have that information, then I can attach a good price tag to what's needed. And I want to do that before I go to the board of directors and ask the board of directors for a single penny to complete that plant. We have an ongoing effort now, but we obviously have slowed down Watts Bar until we can determine what all is needed. But even today I'm in a position to say, I will not prejudge what we'll find. I can't do that.

Mr. OBERSTAR. And that study will include then the issue of the welds, is that correct?

Mr. WHITE. Yes. Well, really, the weld issue has been concluded. Before I arrived at TVA, TVA had hired, through the Department of Energy, an independent contractor, as is sometimes done, to come in and give an objective view of the welding program at Watts Bar. They have completed that task, and they have submitted a report, and I will be happy to provide the conclusions of that report also to you, Mr. Chairman, for the record.

But I am very pleased with the results, I would tell you that. I am very pleased with the results they found of the quality of the welding at Watts Bar, which was a big issue.

Mr. OBERSTAR. I think that would be helpful, and we would like to have that information. The staff will review that information.

[The following were received for the subcommittee files:]

DOE/ID WELD EVALUATION PROJECT REPORTS

1. W. H. Borter, Weld Program Review, DOE/ID-10152, December 1986;
2. S. M. Bradford, WEP Organization and Work Scope, DOE/ID-10175-1, November 1987;
3. S. M. Bradford, WEP Formation of Homogeneous Groupings of Welds, DOE/ID-10175-2, November 1987;
4. De Lon "H" Gardner, WEP Data Bases for weld Reinspection Results and Status Reports, DOE/ID-10175-3, November 1987;
5. D. A. Armour, WEP Component Inspection and Examination Process, DOE/ID-10175-4, November 1987;
6. R. K. Blandford, WEP Suitability for Service Evaluation Engineering Process, DOE/ID-10175-5, November 1987;
7. L. C. Brown, WEP Generic Problem Analysis Process, DOE/ID-10175-6, November 1987;
8. J. M. Savage, WEP Formation of Weld/Component Data Base, DOE/ID-10175-7, November 1987;
9. L. C. Brown and R. J. Wade, WEP Aggregate Results of Weld Assessment, DOE/ID-10175-8, November 1987;
10. F. C. Fogarty, WEP Final Report, DOE/ID-10175-9, November 1987.

Mr. OBERSTAR. I will have further questions. I have exceeded by own self-imposed time limit. I recognize the gentleman from Pennsylvania.

Mr. CLINGER. Thank you very much, Mr. Chairman.

Just following up on the chairman's line of questioning, from what you testified, Admiral White, the "they" that have been alluded to in the hearing, you replied that this is part of a deliberate effort to discredit the TVA's nuclear power program in general, is it not? It's not Watts Bar or Sequoyah, it's really the entire program that is the target here? Is that a fair summary?

Mr. WHITE. That is my opinion, yes, sir.

Mr. CLINGER. Given that, if that effort that has prompted the leaks, the Anderson column, et cetera—Mr. Runyon or Admiral White, either one—what would be the result if that effort were to succeed? In other words, if Sequoyah never starts, if Watts Bar is shelved, if in fact the entire nuclear effort and capability at TVA is precluded from going forward, what does that do to your entire operation?

Mr. RUNYON. Mr. Clinger, I can't believe that, with the NRC voting today to start Sequoyah Unit 2, that that scenario could take place.

Mr. CLINGER. I would agree. I hope that we are right in that. But I am suggesting, you know, there is a substantial antinuclear power community in this country that is opposed to further development in any regard of nuclear power. If they were to succeed in this instance, what would it mean to the operation of TVA? What would it mean to your consumers? What would it mean to the entire region?

Mr. RUNYON. You are asking me a question I really have not analyzed and studied, because, in my wildest imagination, I never imagined that Sequoyah and Browns Ferry, which have been operating plants in the past, would not be brought back. So I really haven't prepared that. It would be quite a large study, I think, to make. We are making a study now to determine what we need in the way of power, and what we need to do with those plants. I don't think that we put in that equation, no nuclear plants.

Mr. CLINGER. So that, under the worst case scenario, you contemplated having some capability, nuclear capability?

Mr. RUNYON. Yes, sir, we have.

Mr. CLINGER. To satisfy your needs, because without it, you would obviously have to go to an alternative source of energy.

Mr. RUNYON. Well, we're without it right now. And what we are doing right now is that 71 percent of our power is generated by fossil plants. About 17 percent, I believe, is generated by hydro plants, and the remainder is bought from outside TVA. Now, I said that we could generate 99 percent, and we can. We have some other plants that are combusion turbine plants, that are very expensive to operate, but we can operate them in an emergency in order to supply our customers power. They are very expensive to operate, and we wouldn't want to do that. So, we would have to be buying power from outside of the valley.

Mr. CLINGER. Okay. So the way, in effect, you would make up the shortfall would be to contract out for power? You would not be building any new facilities, coal-fired, oil-fired, or any other?

Mr. RUNYON. Well, again, Mr. Steffy is our expert on this. But I believe that we would have to put that into our study and decide, because that extra power may not be out there ten years from now. We have to analyze, why do we have extra power from outside right now? Right now we're glad we've got it. And we've got it this year, we had it last year, and we had it the year before. Is it going to be there for ten years? We'd have to analyze it to find out.

Mr. CLINGER. I know that, under your planning at the moment of the slowdown on the Bellefonte plant, you don't contemplate bringing that #1 unit on until 1994. You've testified as to what the time line is on the Watts Bar operation. Given the ongoing studies of the welds, et cetera, when is it contemplated that you would have that operational?

Mr. RUNYON. I don't have that answer myself. I don't know whether——

Mr. WHITE. Mr. Chairman, January 1981 is the approximate date for Watts Bar.

Mr. CLINGER. 1991.

Mr. WHITE. 1991, I'm sorry. And the second unit, about a year later. We are presently reviewing all the schedules. There is so much on the plate that we simply must, to be economical the way we approach it, we just simply have to phase them. The present dates are the 1991–1992 dates.

Mr. CLINGER. I think that does it, Mr. Chairman.

Mr. STEFFY. Excuse me. May I add something to the answer.

Mr. CLINGER. Please, Mr. Steffy.

Mr. STEFFY. Certainly I agree with what has been said about what would happen if our nuclear program were stopped dead in its tracks. My opinion is, and we haven't done a study, but we would immediately undertake a fairly massive building program or some other technology. But let me also point out that when you have an asset like that that is suddenly terminated, then you have a tremendous amount that you have to write off, and you have to recover it through your rates. And the most devastating effect that the nuclear program would have if it were suddenly stopped dead in its tracks would be the tremendous rate increase that would

occur in writing off that investment. I don't know exactly what it is, but it is something in the range of $15 billion. You write that type of investment off even over a ten-year period, it's a billion and a half dollars per year, that's a 25 percent rate increase immediately.

Mr. CLINGER. I think that was the point I was trying to get at. It would be a tremendous increase to your consumer.

Thank you.

Mr. OBERSTAR. Yes. That point that Mr. Clinger just explored is one that I want to develop further. The cost, there is a very sizable cost to rate payers of that decision made way back when to start 17 plants, get them on the way, and you've got money sunk into eight of them, and it's a big cancellation. Someone's got to pay for that, and it's those rate payers.

Mr. RUNYON. That's right.

Mr. OBERSTAR. The gentleman from Tennessee, Mr. Clement.

Mr. CLEMENT. Bob, maybe I misunderstood what you said, about the plants that have not been licensed yet, that if that was rolled into what the rate payer would have to pay, how much would the electric rates increase. Is that what you were referring to?

Mr. STEFFY. Well, not exactly. I was taking the entire nuclear investment into account. If you suddenly said Sequoyah, which is already in the rates, and Browns Ferry, Watts Bar, Bellefonte were all suddenly assets that were no good, then those type of assets have to be written off on your books, and the write-off period is much faster than normal depreciation under normal accounting procedures. There would be—again, I haven't done the calculation in detail, but I can tell you that it would have a devastating impact on us from a rate standpoint, it would be a very large rate increase.

Mr. CLEMENT. Now, Admiral White, you mentioned a while ago about really the NRC's attack is really Sequoyah, not Watts Bar. What did you mean by that?

Mr. WHITE. I'm sorry, Mr. Congressman, I wasn't clear. I was not referring to the NRC's attack. I tried to be very selective in my use of words. It is not an NRC attack. What I indicated were these, if I could call these evil forces, of which I speak, I think their target has always been Sequoyah, it's never been Watts Bar. It's been to stop TVA's nuclear program in any way that could be done. And the first plant, it's been well known for some time that Sequoyah was the first plant. So I think the mounting attack against Sequoyah, you know, proves what I felt all along. But I'm sorry, I did not mean the NRC was attacking us.

Mr. CLEMENT. Well, from your discussions with other utilities across the United States, do they have the difficulty with the Nuclear Regulatory Commission as much as it seems TVA does?

Mr. WHITE. I don't categorize this issue as a difficulty with the Nuclear Regulatory Commission itself. This is a separate issue, I think, although I mentioned the Director of their Office of Investigations, who drew these conclusions contrary to what all their other experts apparently drew, or seven out of eight. I don't mean this as an NRC kind of thing. Clearly, what we have been required to do at Sequoyah is unprecedented for any plant in the country. And the NRC has stated publicly that they know more, significant-

ly more, about that plant at Sequoyah than any nuclear plant in this country.

So we've done a whale of a lot to prove that plant.

Mr. CLEMENT. Well, you know there are some that feel the Nuclear Regulatory Commission is really a conspiracy to destroy the nuclear option, period, that due to modifications and retrofitting, and deferments, cancellations, that they are really not interested in bringing on any new plants, period. They just want to destroy the nuclear option all together or to force utilities to go to other sources of energy. I know it's difficult for you to answer that question, knowing that we're going to hear any moment now about Sequoyah.

Mr. WHITE. Let me do the best I can, Mr. Clement.

First of all, I have no dog in that fight, as I have learned they say in Tennessee. And I guess, secondly, I have plenty on my plate right now without stepping out to answer that particular question. I don't think the NRC, itself, that body, has had an effort with reference to TVA. I am not in a position to say, to answer in any fashion the allegations that you have heard. I am just not in a position, I don't know those things.

Mr. CLEMENT. We talk about how safe is safe, and how much can we afford in terms of safe and everyone wants nuclear plants to operate safely. But there is a line there where you spend so much money that even the nuclear option's not worth the sacrifice, the commitment to move forward with the nuclear option. And I feel very strongly that diversification is the answer for the future. But I think we need coal and hydro, and solar, and every source of energy and not just make the mistake we have in the past with TVA, where we've put all our eggs in one basket, as we did the nuclear option. I hope we don't do that ever again with any other option, whether it be nuclear or any option for that matter.

Mr. RUNYON. I'm disrupting your witness, Mr. Clement, and I'm sorry I am. We have a piece of paper here that says there's a vote on Sequoyah, and I'd like Mr. White to read and explain what it is.

Mr. WHITE. Mr. Chairman, you know, I'd rather have you read the statement. You've supported us so well.

Mr. RUNYON. It says NRC voted five to nothing to allow us to restart, one issue remaining, RTD pressurized loop seal.

Mr. WHITE. Yes, and we hope to have that finished in a couple of days.

Mr. RUNYON. So that will be finished in a couple of days and so we——

Mr. CLEMENT. That's outstanding news. Congratulations.

Thank you.

Mr. OBERSTAR. The gentlewoman from Maryland.

Mrs. BENTLEY. Thank you, Mr. Chairman.

What effect has the nuclear program troubles had on TVA's bond ratings, if any?

Mr. RUNYON. At the present time, TVA has not been to the bond market. So I really couldn't answer that question.

Mrs. BENTLEY. What is the current level of bonded indebtedness that TVA has incurred in support of its power program? Do you have any bonded indebtedness?

Mr. RUNYON. Eighteen billion dollars.

Mrs. BENTLEY. Eighteen billion. Is most of that attributed to the nuclear program?

Mr. RUNYON. Yes, it is.

Mrs. BENTLEY. You know, we have a little nuclear controversy up my way that I really can't blame the NRC for. I am happy to be supportive of the nuclear industry. But we have a power plant right across the Maryland border in Pennsylvania called Peachbottom, and, unfortunately, they found most of the staff there asleep half the time. And at other times, they were on drugs, or alcohol, or believed to be and, therefore, the NRC ordered them to be shut down. I do think that this is a valid criticism of the operator of the company that's been operating the plant. We hope they get their act together very soon, because we need the power that comes from there. It's on the grid system.

How do TVA's rates compare to those of other utilities in your area?

Mr. RUNYON. For residential, there are probably two other utilities around us that are better than we are in residential. So we rate very well, I think, on the residential. On the commercial and industrial rates, we are about in the middle of the pack, a little below. It depends on which side of the Tennessee Valley you go. To our east, we are at a disadvantage, we are not competitive with the companies there. To our west, we are better than those companies are.

We have, in the Tennessee Valley, a fence, if you want to call it that, that has been established, and TVA cannot sell power outside of that fence. But other utility companies can sell inside that fence. That fence was erected, I believe it was in 1959, because the power companies surrounding the valley were concerned because TVA was doing such a good job on power. They were concerned that TVA would just be one enormous company and take over their markets, and so that fence was erected.

There was no thought at all that anyone outside the valley could come in and take away Tennessee Valley Authority's customers. But, in fact, now that is the situation that could exist. People can come in to our borders and take off customers one by one. And the way our rates are established at TVA is that our costs must be recovered every year, and that establishes our rates. We have no other way to do that. And by the act, we have to continue every year to get earnings to equal our cost.

So as we have companies picked off from us that are large users of electricity, our costs don't necessarily reduce a lot just because we stopped supplying that power to those people, but our revenue does reduce. That is a very serious thing to us, and it's the reason that we are looking at how we are running our business and trying to get ourselves more productive and more cost-efficient.

Mrs. BENTLEY. From what you say, with others coming in and able to reach into your area, that seems to be happening on an international basis somewhat.

Have you, in the power business, heard any indications of the Canadians propagandizing in this country about our power problems, and acid rain, and anything that is negative for the power industry, in order to, perhaps, shut down some of our power plants and to persuade U.S. customers to buy from Canada?

Mr. RUNYON. That is not an area that I have gotten into in one of my past lives, so to speak. I did go to Canada to try to start up a facility up there that was a large user of power. And the cost of power in Quebec is very cheap in comparison to the cost of power here. We didn't put our facility in there, because the cost of power was one item. It was an important item, because it was going to be an aluminum engine plant, so we needed to manufacture aluminum. They also have bauxite there at a good price. But there were a lot of things that went against that.

But in the short period that I've been at TVA, I have not been involved with the marketing side of the business.

Mrs. BENTLEY. Mr. Chairman, I ask unanimous consent to have a statement included in the record.

Mr. OBERSTAR. Without objection, the gentlewoman's statement will be included in the record.

[Mrs. Bentley's prepared statement follows:]

Rep. Helen Delich Bentley

Opening Statement before the

Subcommittee on Investigations and Oversight

March 22, 1988

Chairman Oberstar and Ranking Minority Member Mr. Clinger, I commend both of you for continuing to conduct oversight hearings to review the Tennessee Valley Authority's Nuclear Power Program. These congressional oversight hearings are important in determining the best management and safety measures necessary to properly administer one of our nation's largest nuclear facilities.

Nuclear safety is an issue that affects everyone. Recently, in my home state of Maryland, citizens joined together to voice their concern with the poor safety record of Peach Bottom Nuclear Power Plant. Peach Bottom is not located in Maryland but is near the Maryland state line in southern Pennsylvania. Because of Peach Bottom's safety violations, the facility was forced to be closed.

This closure was necessary. The Maryland Congressional Delegation recently met with the Governor of Maryland and federal officials from the Nuclear Regulatory Commission to discuss more effective ways to ensure compliance with federal safety regulations. Strict compliance with all safety regulations is imperative when dealing in the field of nuclear energy. One mistake could very well jeopardize the health and well being of hundreds of thousands of people and our fragile world environment.

Because of the high stakes involved, careful consideration of every safety measure and effective management procedure must be implemented with the best ability of all those in authority. I look forward to receiving the testimony presented here today and offer my attention and cooperation in addressing the concerns of the TVA.

Mr. Chairman and members of the subcommittee, I plan to work closely with you to make necessary recommendations to the full committee regarding oversight of the TVA.

# # # #

Mr. OBERSTAR. The matter of excess power in Quebec raised by the gentlewoman's question is one that I am familiar with. Quebec does have an enormous amount of excess developed capacity, some 5,000 megawatts of developed hydro power capacity, and thousands more undeveloped but potential for development. The James Bay project, in northern Quebec, is an enormous reserve of hydro power, and even with transmission costs to the principal users in southern Quebec comes in, I think at 1½ mils. That is very cheap power. I wish we had it in northern Minnesota.

It's not only Quebec that is a competitor that's in the power business, it's the Province of Ontario and Manitoba. Manitoba Hydro and Ontario Hydro both have huge developments of enormous capacity, 5,000 and 6,000 megawatts capacity already in place, not yet sold, and looking for customers. Transmission costs, of course, are an inhibiting factor, even with KV transmissions.

But the Canadian concern about acid rain—I'm sorry, the gentlewoman has left. I don't mean this in rebuttal to what she said, but Canadian concern about acid rain is not a product of their desire to sell electric generating capacity in the United States. It is a product of 45,000 lakes in the Province of Ontario being devastated by acid rain. It is a genuine concern. We are dumping about 90 percent of the acid rain on Canada and they are dumping about 10 percent of their own problem on themselves and contributing about five percent to the United States.

That's a different matter, though, for another committee to have jurisdiction.

I want to come to page 5 in the Blue Book of the Southern States Energy Board Committee Report. In reference to Watts Bar 1 and 2 and Bellefonte 1, the report says, quote, "If completed, these four units will have a capital investment per kilowatt of electric generating capacity as much as six times higher than earlier plants. Most other U.S. nuclear plants recently completed or under construction have shown similar and even higher increases. TVA's increases, however, are high enough to make the cost of electricity from these units burdensome to its customers and possibly uncompetitive with other sources of electricity. On the other hand," it continues, "further cancellations would result in additional increases in rates based on writeoffs of considerable magnitude or getting nothing in return. That is a Hobson's choice. The more you build the higher your cost. If you try to cancel, costs go up just the same and you don't get anything in return."

What is your response? I am sure you are familiar, Mr. Runyon or Mr. White, with that report, with this particular provision, I think this is a very critical statement, one that you obviously have had to address in some detail. What is your response to this dilemma?

Mr. RUNYON. A couple of responses. One is, this is one of the reasons we're making our study, to determine what it is going to cost and what will the kilowatt-hour cost at the time they would come into being. Some facts that we have, though, are that the most recently completed plant, when they came on stream, averages about $4,100 per kilowatt. Our numbers show—the numbers today that we have, without the study that we are going into that Steve White mentioned, is that Watts Bar would cost about $2,600 and Belle-

fonte would cost $2,850. So that compares favorably with plants that have gone on stream recently.

Mr. WHITE. The Chairman is correct.

Mr. OBERSTAR. Those facts have been verified?

Mr. WHITE. The cost per kilowatt of installed capacity, the Chairman is correct, it's about almost $4,200 per kilowatt. A matter of interest would be that Watts Bar, if completed at the present cost, would be about $2,600 in then-year dollars. So you could almost double the cost of Watts Bar from our present estimate and it would still be cheaper per installed kilowatt than any of the six plants that recently came on-line. And the installed cost per kilowatt of Bellefonte, I believe the Chairman said, is about $2,900, far short of the $4,200 of the recently other completed plants in the country.

Mr. OBERSTAR. Bringing the Sequoyah plant on stream now with the NRC decision will provide a revenue stream that you haven't had before.

Where will that revenue stream go? What are you going to be doing with that?

Mr. WHITE. I'll let Mr. Steffy answer that. I produce the power, hopefully soon, and Mr. Steffy determines the rates and what we do with it.

Mr. DEAN. I might butt in. Mr. Chairman, we had already planned on considerable nuclear generation this year. In fact, it won't be up to what we planned on already.

Mr. OBERSTAR. Mr. Steffy.

Mr. STEFFY. Well, having another source of power available—let me change our terminology here just a little bit—doesn't particularly help our revenue stream, because our revenue comes from people we sell electricity to, and not as generated. What it does do, though, it reduces the cost of producing electricity. And, as Mr. Dean pointed out, we had for this year assumed that we would get about eight billion kilowatt-hours from Sequoyah, or from our nuclear unit. We are down to about four billion kilowatt-hours for this fiscal year in our estimates, and certainly hearing today the Sequoyah will be on-line shortly helps us have confidence that we'll get that.

Having units on-line burning nuclear fuel is a direct economic benefit to the power system. The nuclear fuel is simply cheaper than other forms of fuel that we have available to us, with the exception of hydro where, of course, fuel comes in the form of rainfall and is free.

Mr. OBERSTAR. You have a plan to write off the unamortized cost of the uncompleted nuclear units. What is that plan? What is it going to cost, over what period of time? With whatever assumptions you have to crank into that formula, assumptions of certain plants coming on stream.

Mr. STEFFY. Let me be sure I understand the question. The question is related to the write-off of the cancel plans?

Mr. OBERSTAR. That's right, the unamortized yet write-off.

Mr. STEFFY. Yes, sir. The total amount of the write-off there is about $4.5 billion. When we initially cancelled the plants in 1984, we wrote off about a billion dollars of that and set up a write-off period to write off the remaining amount over an 11-year period.

And we are several years, of course, into that now, and have, at the current time, written off approximately 50 percent of that amount.

Mr. OBERSTAR. So 50 percent is already written off, and does this plan include, or how many nuclear plants operating does this write-off plan include?

Mr. STEFFY. The write-off plan includes the write-off of the assets associated with the eight cancelled nuclear units, as the operating units are not affected by it one way or the other.

Mr. OBERSTAR. You're planning, whether or not you start up the other nuclear plants, you plan a write-off based on existing capacity within the system, is that right?

Mr. STEFFY. We're writing off the cancelled plants, yes, sir. We have no choice. Once you cancel a plant, it is no longer an asset that you can just continue to carry on your books. You simply have to go ahead and pay for it.

Mr. OBERSTAR. It is going to have to come, then, out of the fossil fuel and the hydro-generating capacity of the system?

Mr. STEFFY. It ultimately must be paid for by our rate payers. We have no other sources of income.

Mr. OBERSTAR. I wanted to inquire about the—one of the points TVA is best known for is its hydro-generating capacity, and in the Southern States Energy Board report there was an indication that because of drought, a considerable drop in generating capacity resulted, it says on page Annex 3-32, hydro-generation was adversely affected by severe drought in the TVA service area. Hydro supplied 18.5 percent of system energy in 1983, but only 9.1 percent in 1986. And then you had to go and buy power outside the system to replace that which was lost because of drought.

Is this the most severe—I'm sure you have had other droughts—is this the most severe drought history you have had in the valley?

Mr. STEFFY. Yes, sir. It's the most severe drought over an extended period of time that we have experienced in the valley, and I might point out that it's continuing. The numbers you have there were statistics you quoted for 1986 give you some indication how bad it was in 1986. 1987 was a little bit better, but I tell you that 1988 is running worse than 1987 so far. We have just planned on generating 18.2 billion kilowatt-hours from our hydro system this year. Our projections, assuming normal rainfall for the remainder of the year are already down to 14.4 billion kilowatt hours, if my memory is correct. That's a loss of about 4 billion kilowatt hours from our lowest-cost source, and that's very important to us.

Mr. OBERSTAR. And are you going to have to buy outside the system to make up that?

Mr. STEFFY. We will have to make that up some way, either with additional operation of our fossil system, or purchases outside, and considering the load we already have on our fossil system, most of this will likely come from purchases outside, yes, sir.

Mr. OBERSTAR. Am I correct that TVA has consumed, by development, all the available hydro-power potential within the region?

Mr. STEFFY. From a practical standpoint, yes, sir. There may be some small additional potential, but it's not much.

Mr. OBERSTAR. And the likelihood of squeezing more power generation out of existing facilities by technological improvements, is relatively small, is that right?

Mr. STEFFY. Relatively small. Certainly as you go in and rebuild a turbine, be it hydro or fossil, for that matter, but as you replace equipment, you replace it with equipment that technology has perhaps made more efficient, and get a little bit more out of them. But for any significant increases, they are just not there.

Mr. OBERSTAR. Some of the new G.E. turbine development is not going to enhance significantly your hydro-power generation?

Mr. STEFFY. It's not going to be a dominant power source that we can say instead of building a new plant we'll go in and do this to our hydro system. Certainly as you replace turbines, again you get small percentage increases out of them. And they are important, and it is worth the money invested generally to do it. But it's not the major power supply of the future.

Mr. OBERSTAR. Do you stand by the projections for power requirements and consumption needs included in the Table 17 in the Blue Book report? Have you read that section of the report, and are you supportive, are they in the ball park with these projected capacity load and reserve numbers?

Mr. STEFFY. I am fairly confident that the numbers came from us, but I would frankly tell you that I'd have to look at them again to——

Mr. OBERSTAR. Would you do that and submit for the record a response to that question?

Mr. STEFFY. I'd be glad to.

Mr. OBERSTAR. I think it's important for understanding the dimensions of the problem with this nuclear situation you're in.

[The following was received from TVA:]

INFORMATION ON LOAD AND RESERVE CAPACITY

Response: The projections for power requirements and consumption needs included in table 17 of the Southern States Energy Board's report entitled "TVA: A Path To Recovery" were prepared in July 1986. The numbers were TVA's best estimates for that period of time, and I correspondingly support the estimates. TVA's latest estimates were prepared in July 1987 and are somewhat different because of new information and changing circumstances. Specifically, TVA has lowered the estimates of electricity sales for uranium enrichment to the Department of Energy (DOE) and to large directly served industries.

TVA's estimates of capacity and load prepared in 1986 and 1987 are shown in the table below. Also shown is the corresponding DOE and directly served industrial load estimates which were prepared in the same years.

Year	TVA system		DOE load	Directly served industrial load
	Capacity	Load		
July 1986 estimates (MW):				
1990	30,582	21,906	783	1,972
1991	30,582	22,348	810	1,988
1992	31,752	22,712	755	1,998
1993	31,752	22,747	381	2,018
1994	31,752	22,983	194	2,032
1995	32,694	23,324	90	2,046
July 1987 estimates (MW):				
1990	30,425	20,911	444	1,847
1991	30,425	21,423	447	1,865
1992	31,956	21,493	100	1,786
1993	31,596	21,963	100	1,752
1994	32,808	22,468	100	1,737

Year	TVA system		DOE load	Directly served industrial load
	Capacity	Load		
1995	32,808	22,973	100	1,720

Mr. DEAN. Mr. Chairman.

Mr. OBERSTAR. Yes.

Mr. DEAN. Would you clarify what you mean by the Blue Book? Which Blue Book?

Mr. OBERSTAR. I have been referring to the Southern States Energy Board TVA Advisory Report.

Mr. DEAN. Thank you, sir. Sometimes they refer to some of our budget documents as blue books. We've got a whole bunch of them.

Mr. OBERSTAR. Oh, no. I serve on the Budget Committee. We don't want to get into that.

Mr. DEAN. Thank you, sir. I didn't, either.

Mr. OBERSTAR. The Federal one is a big enough headache.

Back to the contract employees issue, Mr. Runyon. Of your 33,000 employees, how many are contract employees?

Mr. RUNYON. At the present time we have a large number of engineering firms that do contracting for us, and mostly in the nuclear area, and I would like to ask Admiral White if he can give us the answer to that.

Mr. WHITE. We presently have about 2600, and I can confirm this for the record, but about 2600 contract personnel, engineers primarily. That's different, of course, than the number of contract managers we have, which is only a handful.

Mr. OBERSTAR. How many are contract managers?

Mr. WHITE. We presently have only 12, including myself, and of those 12, there are seven, including myself, who I would say are key top-level managers. At one time, of course, we had almost, I think, two and a half dozen of those types of contract managers. So we have worked out quite a bit of that.

Mr. OBERSTAR. Is seven roughly the number that you think would be needed of these to use a term from the Federal Civil Service, supergrades that would be required within the system? Is that what we are really talking about, seven people that need to be paid substantially above the Civil Service schedule?

Mr. WHITE. No, sir. Of course, I would ask you to define "substantially above." But I've looked at the nuclear power——

Mr. OBERSTAR. Anything more you pay Members of Congress.

Mr. WHITE. Okay. Taking that as a definition, my guess would be—and I have looked at this—it's between 24 and 30, and it depends on the period of time you look at. As the plants come on-line it will lag, but it's between 24 and 30 is all it is out of the entire organization that would be paid above the Congressional cap.

Mr. OBERSTAR. Yes. Now, that is something I think we need to look at, and we will look forward to the material that I requested Mr. Runyon to submit for the record, and I think we want to analyze that further and review this matter at some length.

I have one last question that does not relate to nuclear power and does not relate directly to your other electric generating mat-

ters, but is related to them. And that is the economic development program in the Tennessee Valley area.

At a recent closed session of the Budget Committee, and I'll not refer to specific names, it was an executive session. The question of TVA's budget, which was under review by the Budget Committee, came up, and references were made to a concerted campaign by the Tennessee Valley Authority to steal industry and jobs from neighboring areas, because of the ability to offer substantially lower rates for power and lower financing. I felt those statements were quite strong, they came with very strong feelings, and ultimately did not have an effect on the TVA budget, but could have. And I just wanted to explore that with you at this point. I am sure you have heard these allegations made. I would like to know whether TVA has an ongoing campaign to simply attract and relocate jobs from the area just outside its borders into the Tennessee Valley area.

Mr. RUNYON. Mr. Chairman, I am not aware of any program that TVA has to go outside its borders and bring companies in. We are interested in keeping our customers, but we really can't do anything about rates. We have a rate structure that we don't change for an individual or an individual company.

As we have already said, some of those areas right outside our boundary can get cheaper power there. We know that now. And there's nothing we can do about that. We can't offer them a better rate.

The financing thing you are talking about, I have no idea how we could offer better financing, because it would take a lending institution, such as a bank, I would think, to encourage a large company to come in and locate in the Tennessee Valley. So I am just not aware of that. Perhaps my other board members have heard of those stories, but I am certainly not aware of it.

Mr. OBERSTAR. Mr. Waters.

Mr. WATERS. I might comment on that, Mr. Oberstar. We have no such financing program that I know at all. We do assist the local people who need information on mapping and utilities, and things like that. We have no financing program at all. And, as Chairman Runyon has pointed out on industrial rates, the United States average is 4.82 cents per kilowatt-hour on industrial rates, and ours is 4.72 cents. So I don't think we're doing anything there on an average basis that would result in anything.

And in no instance are we using tax-appropriated dollars to fund any kind of programs which would improperly, or illegally entice industry. I think that would be improper, and TVA has always been very careful of that.

Mr. OBERSTAR. I appreciate your response.

Mr. DEAN. Mr. Chairman.

Mr. OBERSTAR. Yes.

Mr. DEAN. The only thing that we've done that might be confusing is we have a program for some of our counties where the unemployment is very high. We call it the Special Opportunities program. We have actually loaned money to counties like to help them put up a building, a shell building, and try to get industry. But there has been no effort to recruit it from across the borders. Usu-

ally they are fairly low-paying industries, and the idea is to get people off of the Federal relief rolls and into some kind of a job.

Mr. OBERSTAR. Well, I thank you for that response, and we may want to pursue this matter further at a later date. I wanted to raise that to pique my attention at the time it was raised.

Does the gentleman from Tennessee have any further questions?

Mr. CLEMENT. No.

Mr. OBERSTAR. The gentleman from Pennsylvania.

Mr. CLINGER. Just a couple of questions, gentlemen.

Have the problems which you have had with the nuclear program necessitated you keeping some of the coal-fired units on line longer than might otherwise have been the case? And, following on that, what is the long-range planning for the coal-fired units? Do you have a schedule for phasing those out over time?

Mr. STEFFY. Well, let me answer that in two steps. Certainly having nuclear units and the problems we have had with the nuclear program, and lack of generation from them have forced us to operate the fossil systems at higher rates than we had been projecting. Our fossil units, on average, are over 30 years old. And there have also been some allegations, some allegations certainly in the report that has been referred to from the Southern States Energy Board, that we have not properly maintained the system.

I guess one of the things, I think, that tells you most about whether you properly maintain something is its performance. In 1986 we generated more kilowatt-hours from that system than had ever been generated in a fiscal year, and we did it that year with our equivalent forced outage rate going down. Between 1978 and 1986, when I was talking about us generating a record amount of power, the equivalent forced outage rate of our fossil system went down from 26.8 percent to about 15 percent. We have made substantial investments in maintenance and in rehabilitation of the fossil system.

It is also true we have operated at higher levels than we intended to, and we certainly are going to have to monitor closely whether we are doing enough maintenance and watch our forced outage rates and be sure that we do have a dependable source of supply from our fossil system. Because even with the nuclear units coming back on-line, we are going to have to depend on that system for many, many years in the future.

The second part of your question, we do not at this point have a schedule for phasing out of the units. Part of the results of the task force study that Mr. Runyon has referred to on several occasions here today, will be to help us decide that. We have to get a firm schedule for nuclear units back on-line and then we can start making decisions on getting the fossil plants off. But that's the status at this point in time.

Mr. CLINGER. Thank you, Mr. Steffy.

That is all, Mr. Chairman.

Mr. OBERSTAR. Do you anticipate that the TVA will have to go to the Federal Financing Bank for borrowing in the near future?

Mr. RUNYON. Every year we have been doing some borrowing from the bank, so I would think the answer to your question is yes, we would.

Mr. OBERSTAR. Do you have a schedule, a projection of how much?

Mr. STEFFY. We had originally projected, when we set our budgets for this year, borrowing a little over a billion dollars this year. So far in the fiscal year, we have had to go to the FFB and borrow $200 million which is less than we had planned primarily because of the settlement which we reached with the Department of Energy and receiving a large payment from them early in the year. It now looks like we'll be borrowing less than we projected in our budget to borrow, but we will still need to borrow a substantial amount of money this year.

Mr. OBERSTAR. You are going to provide for us for the record the amount, as requested by the gentleman from Tennessee, per year in debt service, how much you paid, and what that represents of your rate base. And I would like you to provide for our record a clarification of the tabulation you submitted to the Appropriations Committee on the appropriations made in the past to the TVA power system, the payments made over the period of time. We will submit for you the document in question. We have some questions about this item, and we would just like for you to have that clarified for our hearing record.

Yes, sir. I see the puzzled look on your face. It is all information you have already submitted to the Appropriations Committee. It is just not in the form that we would like to have it. We will submit that for you to clarify for our record.

Mr. RUNYON. We will.

[The following was received from TVA:]

TENNESSEE VALLEY AUTHORITY
POWER PROGRAM APPROPRIATION INVESTMENT AND TREASURY PAYMENTS

The net appropriation investment in TVA power facilities at September 30, 1987, was $788 million. TVA makes annual payments into the United States Treasury from net power proceeds of a return (i.e., interest) on the appropriation investment in power facilities and a "principal" repayment of a specified minimum amount to reduce the appropriation investment in those power facilities. For fiscal year 1987 the amount representing a return on the appropriation investment was $74 million. The annual payment to reduce that investment is $20 million. Prior to 1961, under then existing legislation, TVA paid to the Treasury a total of $185 million. Under the terms of section 15d(e) of the TVA Act, payments will continue until an additional $1 billion has been repaid, which will leave a remaining Federal investment of some $260 million in the TVA power system.

Appropriation Investment in Power Facilities at September 30, 1987

	(Millions)
Total appropriation investment in power facilities before repayments	$1,443
Less repayments	655
Remaining appropriation investment as of September 30, 1987	$ 788

Total Amounts Paid to the U.S. Treasury through September 30, 1987

	(Millions)
Return on appropriation investment (interest)	$1,765
Repayment of appropriation investment (principal)	655
Total	$2,420

Amount of Appropriation Investment Remaining to be Repaid After September 30, 1987 ..... $530 million

0017E

[Mr. White's prepared statement and newspaper articles follow:]

STATEMENT OF S. A. WHITE, TVA

BEFORE

HOUSE PUBLIC WORKS AND TRANSPORTATION SUBCOMMITTEE

ON INVESTIGATIONS AND OVERSIGHT

MARCH 22, 1988

Mr. Chairman, on of the issues that you have asked me to address is the Appendix B matter. It would be inappropriate for me to make any statements or answer questions specifically on the subject of the Justice Department's inquiry. However, I have prepared a short statement on the subject matter of the DOJ inquiry - TVA's March 20, 1986 letter to the NRC concerning Watts Bar's compliance with Appendix B.

Mr. Chairman, as I am sure you and your fellow Subcommittee members are aware, TVA's March 20, 1986 letter has been the subject of a significant amount of public attention and scrutiny. The letter addresses an issue that is technically complex; it is well-known in the nuclear industry that the most competent experts disagree among themselves about what constitutes compliance with Appendix B -- NRC's regulations on quality assurance. The March 20 letter was methodically prepared by TVA, with the assistance and overview of outside experts, shortly after my arrival at TVA in early 1986; it was a response to an NRC inquiry asking for TVA's opinions as to Watts Bar's compliance with Appendix B in

view of a list of specific adverse perceptions by staff members of a TVA safety review group. After reviewing the basis for these perceptions, TVA gave its opinion; we also attached to the letter summaries of the basis for our opinion.

Over the course of 1987, NRC's Office of Investigation (OI) pursued its investigation of the March 20, 1986 letter. OI has been unwilling to share either most of its investigative interviews or its report with me or TVA, although OI's conclusion was publicly leaked last Fall and, evidently, the report recently has been obtained by the members of the press since quotations from it have appeared in various newspaper articles. This situation is patently unfair to TVA. Having been denied access to the report, TVA cannot effectively address or respond to it. Nevertheless, we find ourselves in the untenable position of being publicly confronted with bald and, what we believe, are incorrect accusations, apparently from the report.

As to OI's conclusions, I can only observe that OI is made up of former criminal investigators; none of these individuals is technically knowledgeable, much less an expert, with regard to quality assurance requirements for nuclear power plants, the complex subject matter at issue. Last September, OI referred this matter to the Department of Justice, where the matter is now pending. In a February 22, 1988 letter to Congressman Gejdenson,

Chairman Zech made it crystal clear that there is "a low threshold" to precipitate an NRC referral of a matter to the Department of Justice. That threshold includes the referral of all matters that simply are "alleged" to involve criminal violations of the Atomic Energy Act. The Chairman also stated that the agency had not yet reached any conclusions on this matter.

There are a number of reasons why we at TVA believe that the March 20, 1986 letter has received undue attention and that, in particular, I have been unfairly and unreasonably maligned by the allegations that have surfaced in the press concerning the accuracy of the March 20 letter. Central to our view is the fact, which we hope will eventually come to light, that neither Steve White nor TVA did anything wrong. Perhaps the most compelling evidence in this regard are the sworn statements of three former senior members of the NRC staff. All three of these individuals have impressive technical backgrounds and management experience. One of these individuals, for example, was the first chief of the QA Branch of the NRC. These technical experts had direct oversight responsibilities for TVA and were personally involved in the request for and the review of the March 20 letter. Significantly, each of these individuals has independently concluded that there is no material false statement in the March 20 letter. It is TVA's understanding that not one of these three individuals was interviewed by OI before OI completed its

investigation to a sufficient degree that it felt it could reach conclusions and send the matter over to DOJ; this omission is particularly outrageous, given the very significant role that the three individuals played in this matter. Perhaps even more remarkable is the fact that OI apparently did not consider it necessary to interview these former NRC experts even after the referral to DOJ, even though by then their sworn statements on this matter had been submitted to the NRC.

There are many other facts which support TVA's March 20 letter, such as an internal NRC memorandum written in November, 1986, which stated that, from NRC's perspective, the current programs at Watts Bar "in large part meet the Appendix B criteria" -- a statement almost identical to the language TVA happened to use in its March 20 letter. Recently, reports in the press indicate that seven out of eight members of a group of technical and legal experts assigned to review the regulatory significance of the OI report apparently have concluded that neither White nor TVA engaged in any wrongdoing. Frankly, obtaining near unanimity among NRC technical reviewers is unheard of; seven out of eight is remarkable, particularly on an issue as technically complex at Appendix B.

In summary, while this matter is currently pending before the Department of Justice, I am hopeful that eventually, the <u>facts</u>

will come to light, and that it will become apparent to the public, as it is to us at TVA, that TVA, including I, did not engage in any wrongdoing in connection with the March 20, 1986 letter on compliance with Appendix B at Watts Bar.

The Chattanooga Times

"To give the news impartially, without fear or favor." Vol. CXIX No. 54 / Chattanooga, Wednesday, February [illegible], 1983 Metro Edition / 25 Cents

TVA oversight is marked by unusual actions

First in a series

By Libby Weeks

On Nov. 12, 1980, the top staff members of the Nuclear Regulatory Commission said, in a confidential memo, that TVA's current programs at the Watts Bar Nuclear Plant "in large part meet the Appendix B criteria."

Today, TVA nuclear chief Steven A. White could face a jail term for making essentially the same statement to the same NRC eight months earlier, in March 1980. Also at risk is the restart of Sequoyah Nuclear Plant and the recovery of TVA's entire nuclear program, which has become the focus of a high-stakes battle. It is often a battle more over the political and emotional aspects, rather than the technical ones, of the nuclear power industry.

Behind this change of heart is a tale of how NRC, weakened by years of negotiating away its authority over big utilities and by large turnover in technical staff, is no longer widely regarded as the best guardian of nuclear safety.

The power battle

TVA's special case of nuclear regulation

Powerful House congressional staffers, determined to make the NRC do its job, have become enormously influential in setting policy and direction for the NRC.

Some in Congress, especially sympathetic staff members in the Senate, applaud the involvement of their House counterparts. One, Henry Myers, has been called "the only countervailing force" to a chaotic, ineffective regulator by a top Senate staffer.

"I believe the effectiveness of the NRC has always been low, and its present performance in monitoring TVA is a D or D-minus," Myers says.

"As long as there is no accident at TVA, everyone will say: 'Sure, there was too much congressional oversight.' If there is an accident there ... I just hope no one yells at me," Myers says.

But there are many others — in Congress, TVA and the NRC — who believe that these staffers, armed with the power of their bosses, have used the mantle of "congressional oversight" to create such disruption within some quarters of the NRC that the entire TVA regulatory climate is colored by the relationship.

A little-publicized turf fight between two House subcommittees recently resulted in a dramatic budget cut for NRC and a loss of independence for NRC's investigations office. In December, Rep. Tom Bevill, D-Ala., chairman of the House Appropriations subcommittee on energy and water development and holder of the NRC's purse-strings, cut the NRC's annual appropriation by $35 million.

Bevill also reduced the power of

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NRC's Office of Investigations making it report to the chief of operations rather than to the commission. The moves, according to a House staffer, were designed "to send a signal to the NRC that its people were spending too much time doing the bidding of other congressional committees. Bevill also was saying, 'Hey, I'm the one with the money.'

"Bevill also has major problems with the way the White investigation was conducted," the House source said. "He was also concerned that the deck was being stacked against TVA. The NRC would tell Bevill: 'Oh, we can't tell you anything about the White investigation.' And then the NRC would have Henry Myers on the phone immediately, telling him whatever he wanted to know."

There is no direct line of evidence that can be traced from charges about White to these staff members. But their influence and interest in TVA were ever-present facts of life in the NRC as the investigation proceeded.

"The NRC began as an administrative regulatory body that fairly quickly became captured by the folks it was supposed to regulate — the large utilities," says Tennessee Rep. Jim Cooper, who is regarded as the one of the delegation's most eloquent spokesmen on TVA.

"NRC stopped using objective standards and they started being swayed by the political influences of the large utilities, including TVA. But once NRC left the objective standards and started being swayed by outside forces, then they were starting to be swayed by political forces within Congress, which include staff pressures," Cooper says.

The NRC today

The NRC is widely regarded as an agency of declining effectiveness. Its technical expertise has been hadly eroded by turnover and low morale — a result, many believe, of political crosswinds.

"Some of these staff pressures have been positive — efforts to counterbalance the utility pressure, to stiffen the NRC's backbone, to get the NRC to do a better, tougher job than they were willing to do on their own," Cooper says.

"But some of that staff pressure, I feel, has been negative — at least in regard to TVA. They (congressional staff) have been trying to go after individual personalities," Cooper says in a reference to the White investigation.

The immediate issue is whether White lied deliberately, or, in legal terms, is guilty of making a material false statement. The NRC's Office of Investigations in early October 1987 decided that White was at fault, and referred the issue to the Justice Department for evaluation of criminal intent.

White cannot be prosecuted for simply misstating the situation. The Justice Department must believe that White knew he was lying before it will seek a grand jury indictment.

There has been no separate, public determination by the NRC that the Appendix B program, which is a legal commitment to a quality of construction, is adequate or not.

The Justice Department has made no finding. The NRC members will decide if White lied before the Sequoyah start-up this spring. And if that decision goes against White, restart of Sequoyah will be again delayed.

The Nov. 12, 1986, memo makes it clear, despite congressional opinion to the contrary, that the NRC staff did not regard the White statements as lies. Yet barely six weeks later, White learned from press accounts, quoting anonymous "congressional sources," that he was the object of an NRC staff probe which could result in a jail term.

How this investigation was conducted is reflected in thousands of pages of documents and dozens of interviews. They support the notion that three congressional staff members — two assigned to Michigan Democrat John Dingell and one working for Arizona Democrat Morris Udall — have played an unusual role.

The documents, obtained by *The Times* under provisions of the Freedom of Information Act, show a pattern of interference and influence by these three — Myers of Udall's staff, and Peter Stockton and Bruce Chafin of Dingell's staff.

The staff role

Myers says that he, Stockton and Chafin have done no more than serve as a reminder to the NRC of what its responsibilities are.

"We are accused of doing something legitimate," Myers says. "But this thing of telling the (NRC's) Office of Investigation what to find is just complete lunacy.

"We believe we are doing what we get paid to do. First of all, we do not engage in vendettas. We have a responsibility to work on oversight matters. We think that making false statements to the NRC is a very serious matter," Myers says.

"The NRC relies on the truthfulness of its licensees. When there are suspicions that the licensee has not been truthful, the NRC has an obligation to uncover whether the statements were false or whether the statements were willfully false."

"I told you a long time ago that the statement (White's on Appendix B) was false. ... I told him (Steve White) that it was false, and that it could get him into trouble," Myers says.

Asked if he thinks the statement was "deliberately false," Myers says: "I do not have any comment on that."

Udall and Dingell — through their respective chairmanships of the Interior and Energy committees — control the activities and, to a great extent, the credibility of the NRC. There is a consensus among many NRC staffers — from top to bottom — that offending Udall, Dingell or their staffs would be institutional suicide.

"The very last thing we would want is to make "Big John" (Dingell) mad. He'd hand our butts up. The IRS and rules us over the coals," said a top NRC official.

"Now you and I both know that TVA is not fly-white, but these guys (Myers, Stockton and Chafin) are getting in the way (of) the work that the technical people need to get done."

Cooper, who serves on Dingell's Energy Committee and in whose district Watts Bar is located, says that Myers' involvement in the regulation of TVA's nuclear program had resulted in flawed policies.

"I personally think that overall that process of oversight and investigation has done a tremendous amount of good. For example, we wouldn't know today about the 3000 toilet seats or the 3000 screwdrivers (in defense contracting) if that technique hadn't been used," Cooper says.

"It's a technique that has to be handled wisely. I think that Chairman Dingell uses it extremely wisely. But no process is perfect, and there are going to be mistakes. I'm afraid that TVA may be one of those mistakes," Cooper says.

"I think the oversight process has worked, but TVA is an exception to that."

Myers says Cooper should complain to Udall and Dingell "if he feels like that. I could be gone in 30 seconds."

Documents flow

The documents also portray an NRC that is so fearful of offending Udall, Dingell and their staffs that the agency will violate standards of confidentiality adopted by other federal agencies. Time and again, the NRC provides the staffs with copies of secret investigations and minutes of confidential board meetings, the documents show.

Scores of memos, similar to the one which follows, are contained in the FOIA documents.

"Dear Mr. Chairman: As requested by Dr. Henry Myers of the Interior Committee staff, we are forwarding under separate cover information concerning TVA-related investigation being conducted by NRC's Office of Investigations, according to Sept. 28, 1988, letter to Udall from an NRC official.

"These documents are being used in ongoing OI investigations and are not available to the public. It is NRC practice that whenever such information is unintended or not in actual use, it is kept in locked storage. Dissemination within the NRC is also limited to those with a need to know...." the letter said.

None of the confidential information provided Myers was released to *The Times*.

Norman Zigrosi, inspector general for TVA, says he has an unspoken policy, similar to other government IG offices, that no one — "no matter who they are" — gets any report of any investigation until the probe is finished.

Yet, primarily upon request by Myers, the NRC has regularly provided, reports, updates and minutes of meetings in which TVA investigations were discussed. Especially of interest was the White probe, the documents show.

Myers says he "generally" gets all confidential transcripts he asks for. "This is how things work with the NRC," he says.

Tomorrow: A focus on White

The Chattanooga Times

"To give the news impartially, without fear or favor." Vol. CXIX No. 55 / Chattanooga, Thursday, February 18, 1988 Metro Edition / 25 Cents

Motives and influence are issues in White case

Second in a series

By Libby Weiss
The Chattanooga Times

In recent years, the Nuclear Regulatory Commission has established a record of enforcement that is widely regarded as uneven and deficient.

That record may be best illustrated by the Steven White investigation, in which White, the chief of TVA's nuclear program, is accused of making a false statement in a letter to the NRC. According to White, the letter and the statement in question were written at the urging of an NRC commissioner and with the advice of an NRC staff official.

The NRC has been working on the White matter at the same time its own investigative office is under fire for not moving forward on allegations of gross safety violations in nuclear plant operations around the country.

Some officials with TVA, the NRC and the Congress believe that powerful congressional staffers, notably Henry Myers of Arizona Democrat Morris Udall's staff, are pursuing a personal vendetta against White.

There is a consensus that if charges against White are dropped by the Justice Department or the NRC members decide that White did not lie about construction practices at the Watts Bar Nuclear Plant, then TVA's $17 billion investment in nuclear power could be finished.

The loss of nuclear power in the Tennessee Valley would bring substantial economic and social problems. For the nation, the failure of TVA's nuclear program would seriously damage expectations for the survival of the ailing nuclear industry.

Myers debunks the investigation, saying that utilities should not be allowed to "get away with lies."

NRC documents obtained by The Times under provisions of the Freedom of Information Act suggest that Myers and his colleagues, Peter Stockton and Bruce Chafin of Michigan Democratic Rep. John Dingell's staff, had an intense interest in moving the White investigation along.

Some of the documents suggest that their involvement went beyond normal practices, with the staff giving timetables to the NRC and offering to "help" by uncovering "personal" information on White.

The letter

The origins of the investigation were just days after White, a retired four-star admiral, joined TVA in early 1986 with the mandate to resurrect a failing nuclear program, which continues to cost ratepayers $6 million a day in lost power.

Almost immediately White was asked to write a letter, swearing to the quality of construction at the Watts Bar plant, which was under construction and remains so now.

White has said that he did not want to commit himself on a subject with which he was not intimately familiar and which was a low priority. But, White says, under pressure from then NRC Commissioner James Asselstine and with the advice of Victor Stello, NRC operations chief, White wrote the "no pervasive breakdown" letter.

"I find that there has been no pervasive breakdown of the quality assurance program; that the prob-

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TVA

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lems have been identified; and that TVA has remedied or will remedy all identified design-construction deficiencies and noncompliances, and that accordingly, the overall quality assurance program is in compliance with Appendix B," White said in his March 30, 1984, letter.

White also said in a sworn deposition last summer that Myers threatened him with prosecution one month after he wrote the Appendix B letter if he did not alter or rescind it.

Myers says he only warned White that the statement could get him trouble. The warning was not intended as a threat, Myers says.

(Watts Bar was the partial undoing of White's predecessor, Hugh Parris, who remains under investigation for a possible material false statement in connection with a broad statement he made in 1985 that the plant was ready to be operated.

(Stello is also under investigation for advising White in this matter. According to one document received under the FOIA request, Myers told the NRC officials in July 1987 that he would see to it that the Stello investigation was "deferred" in favor of the White/material false statement probe. Myers says now that was precisely what he did.)

Myers' allies

Austin is a Republican with a reputation for tough enforcement who was not reappointed last summer, reportedly because he was not liked by the nuclear industry. He and his assistant, John Austin, were in regular contact with Myers, the FOIA documents show. Myers worked closely with these two officials, who accommodated him by providing him regularly with confidential reports and even drafts of letters to congressmen.

Also in the Myers-Austin camp was a TVA contractor, Quality Technology Co., which gave Myers detailed lists of employee concerns and other data which showed TVA and its programs to be deficient.

Even before White's arrival in January 1986 there was a body of evidence, from TVA's now defunct nuclear safety squad and from QTC, that suggested that Watts Bar was poorly built, with a particularly bad welding program. Myers said in December 1985 that if Watts Bar ever operated it would be the site of a major accident.

White said at the time that he thought Myers wanted the letter as ammunition against the NRC as much as TVA.

Agency and regulatory officials say Myers did not initially "go after" White personally; rather he had become convinced by QTC and by documents he had acquired that Watts Bar was a genuine safety problem.

Only later, after White had fired QTC, butted heads with Agosteno and gone over the NRC staff's collective head to the commission members directly, did Myers develop what has been described by dozens of observers as an "obsession" with White.

Myers denies he is preoccupied with White.

"Why would I want to get him? That is craziness," Myers says. "There is a process here, and the process is in motion. The NRC and the Department of Justice will do what they think needs to be done. We are not going to tell them what to do.

"This business of getting Steve White — somebody would like to say that because that is an easy explanation," Myers says.

Before White

Myers was involved with TVA before White's arrival. In a recent interview, Parris, who left TVA in 1986 and is now working for a utility in the Midwest, said Myers' interest in and influence over TVA nuclear issues increased dramatically during the summer of 1985.

"When I would run into Henry (Myers) in Washington at NRC hearings or hearings on the (Capitol) Hill, Henry would come up to me and say: 'I'm just using you and TVA as an example of how NRC didn't do their job. I'm not after you, I'm after them,'" Parris said.

In June 1985, shortly after the arrival of QTC at Watts Bar, Myers called the NRC's senior resident inspector there, Milton Shymlock, and accused him of not doing his job because he was not working on the employee concerns uncovered by QTC.

In a memo to his boss obtained under the FOIA provisions, Shymlock wrote: "He (Myers) said the public and the government were paying me good money or a lot of money to do my job, and I was not doing my job.

"He (Myers) then stated that TVA had been known to lie and make false statements, and that I should be out investigating," Shymlock wrote.

Shymlock said Myers continued to berate him, saying: "TVA and NRC are not telling Washington (apparently a reference to Myers himself) about all the things that are going on with TVA."

Myers' interest in TVA intensified with the arrival of White, and broadened as apparent program was made in dealing with the TVA's nuclear problems.

The FOIA documents and related interviews with congressmen and other officials suggest that from the day the "no pervasive breakdown" letter was submitted, Myers intended to use the Appendix B letter to discredit White.

In doing that, Myers apparently believed he could derail TVA's nuclear recovery program and highlight the inadequate performance of the NRC.

Supporting this notion is a July 17, 1987, handwritten record of a meeting with Ben Hayes, director of the NRC's office of investigations; Myers; Stockton; and Chaffe. The meeting occurred just days after the NRC had taken White's deposition in connection with the Appendix B investigation.

During that meeting, Hayes, who was then functioning as an inspector general, engaged in an open discussion with congressional staff about an apparently familiar subject — referring the White investigation to the Justice Department.

Also attending the meeting were two General Accounting Office officials. Frederick Combs, who works for the NRC's congressional affairs office, kept the minutes. Efforts to reach Combs were unsuccessful. He did not return phone calls.

White rumors

In addition to a discussion about referring the investigation to Justice, Stockton said he would ask a GAO investigator to look more closely at White personally, according to the minutes.

The notes cite Stockton as: "Concerned with getting information that is extremely sensitive with White. Willmess (a GAO investigator) will be talked to." Stockton could not be reached for comment. He did not return phone calls. Myers says he does not know what Stockton meant in this part.

Stockton's remarks came after Hayes indicated that NRC's investigative team had not uncovered anything damaging through the White deposition.

This came on the heels of a rumor that White was involved with a female chiropractor — a story which was suggested to reporters and others by the congressional and GAO staffs, including Myers, for months, and adamantly denied by White.

It was also later determined by an agent of TVA's office of inspector general, who also looked into the allegation, that before the rumor was laid to rest, a Knoxville reporter was persuaded to undertake his own investigation of the reported affair. The reporter's for-

tive attempts to substantiate the rumor nearly landed him in jail for prowling around White's Lake Shore condominium.

"I was infuriated. Both my wife and I were both infuriated by the very suggestion that I would be unfaithful," White said recently. "I believe someone was trying to find out something dirty on me because the NRC couldn't come up with anything technically damaging to the nuclear program."

The deadlines

Also discussed was how quickly Hayes could wind up the probe.

"Will you commit to a well-defined result if we delay hearing about the current investigation?" the notes describe Myers as saying during the meeting. Dingell had scheduled a hearing for Aug. 6 to deal with what he perceived as foot-dragging on the part of NRC in the White probe.

"What will happen to assure the investigation will result in a well-defined finding? Commit to result by 9-1-87" the notes summarizing Myers continue.

Later in the meeting, Myers brought up the Department of Justice in connection with the White probe. He told Hayes that "anything that goes to the DOJ (Department of Justice) goes to OI" (which Myers says meant Dingell's subcommittee, the oversight and investigation subcommittee of the Energy and Commerce Committee).

Staff members of Dingell's committee, Stockton and Chafin, and Myers did get the NRC's investigations record, which did also go to the Justice Department. Yet repeated requests by Sen. Jim Sasser, TVA, newspapers and others for the material have been rebuffed.

Myers says now the timetable did not include a result. "Certainly no one was telling Ben Hayes to make a guilty finding," Myers says. "Nothing in this record will you ever find that has me saying that that statement was knowingly false, as opposed to false. Nothing you will ever find written by any of us around here will say that it was knowingly false," Myers says.

Hayes, who as head of the NRC's investigations office has much the same authority and the same requirements for objectivity as an inspector general, agreed with each demand made by the congressional staffers. He balked only at the Sept. 1 date to finish the probe.

Hayes did say: "OK" to a "mid-September" date later offered by Myers.

At the end of the meeting, according to the notes, Hayes said: "Ducks in a row by mid-September."

Chafin replied that he wanted an "oral briefing if there is an oral referral." The only kind of referral that the White investigation would have produced is one to the Justice Department for possible criminal prosecution.

A different version

Three days later, on July 20, members of the NRC received an official notice of the July 17 meeting. That memo differed in many ways from the account contained in the July 17 handwritten minutes.

"Committee staff indicated that in view of the sensitivity of the investigation, they would defer being briefed in detail until the investigation is complete," the official memo to the commissioners said.

"Thus, no details of open investigations were discussed," the memo said.

The memo went on to say that it was Hayes — rather than the congressional staff — who dictated when the Dingell hearing would be held.

The official memo said: "Mr. Hayes suggested to congressional staff that the proposed hearing scheduled for Aug. 6 be canceled in light of the fact that the investigations are still ongoing."

But the handwritten minutes show it was Myers who used the Aug. 6 hearing as an apparent bargaining chip to make certain that NRC came up with a "well-defined result."

The memo to the commissioners also said congressional staffs had been provided "an index" of cases being investigated by NRC's office of the investigation. That list was withheld from this newspaper on the basis that "disclosure of predecisional information would tend to inhibit the open and frank exchange of ideas essential to the deliberative process," the NRC said.

Tomorrow: Safety at Watts Bar

The Chattanooga Times

"To give the news impartially, without fear or favor." Vol. CXIX No. 56 / Chattanooga, Friday, February 19, 1988 ★ Metro Edition ★ / 25 Cents

New report certifies Watts Bar welding program

Last in a series

By Libby Wann

TVA's welding program at the Watts Bar Nuclear Plant — long considered in some congressional and regulatory quarters to be so defective that the plant should never be allowed to operate — is now and has always been adequate, a new report concludes.

The two-year study is by the Idaho National Engineering Laboratory, under contract to the Department of Energy. The exhaustive look "resulted in a carefully substantiated conclusion that the documented TVA weld program met the (NRC) commitments," the final report said.

TVA paid $60 million for the study. It was commissioned in 1985 after a TVA contractor listed 686 charges by TVA employees that they had either participated in or witnessed shoddy construction at Watts Bar.

The welds issue originated years earlier when a TVA nuclear engineer said the welding work was so deficient that TVA should scrap the plant.

Idaho National Lab examined 35,000 structural welds, and found 10 welds with "deviant characteristics." These 10 welds were among the 686 previously identified in the employee concerns program. The remainder of the employee concerns that relate to welding were investigated and found not valid.

"Deviant characteristics" in a weld does not mean the welds were defective or are not acceptable; it means they have a characteristic which does not conform to a standard. The anomalies were either fixed or shown to be of no significance. A second evaluation showed that even had the deviations not been fixed, they would not have caused the welds to fail.

In a second category, the pipe welding, Idaho examined 3,000 welds and found no deviations. Yet to be completed is the re-reading of about 2,000 X-ray checks of welds. That task is under way, and is expected to be finished in two weeks. So far, no unacceptable welds have been found.

"So far, we have found nothing that would have made any difference," TVA nuclear chief Steven A. White said Thursday.

"If it comes out in the next two weeks that we find nothing that would have affected public health and safety, it means we will have spent $60 million to prove something that was really OK in the beginning," White said.

Resolution of the welds question is significant on several fronts.

● First, it would deliver an effort to discredit White for his March 1986 statement that Watts Bar was built with "no pervasive breakdown" in quality construction practices, or Appendix B.

Congressional and NRC staffers, including Henry Myers of Arizona Democratic Rep. Morris Udall's staff and James Taylor, NRC's No.

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TVA

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2 men, have based their convictions that Watts Bar is in violation of Appendix B on the reportedly deficient welding program. A former NRC commissioner, James Asselstine, also condemned the plant on the basis of early inflections of bad welds.

The NRC's office of investigation decided in October 1987 that White lied when he wrote the Appendix B letter. The matter is now in the hands of the Justice Department, which will decide if White did make a material false statement — a violation punishable by a 10-year jail sentence.

Taylor testified in October 1986 before Michigan Democratic Rep. John Dingell that he had no doubt that TVA failed to meet Appendix B requirements. "In structural welding, there is no doubt in my mind," Taylor said.

Even Asselstine had decided in September 1986 — well in advance of the study's conclusion — that the welding program was inadequate.

"The construction of Watts Bar is essentially complete and TVA is unable to certify the plant's safety in general, and in particular the adequacy of its welds, let alone compliance with license commitments. Thus the straightforward conclusion is that TVA did not comply with Appendix B," Asselstine said in a letter to Dingell.

According to documents obtained from the NRC by *The Times* under the Freedom of Information Act, it is clear that the welding issue at Watts Bar was considered by many in the NRC and in Congress to be their trump card in a high-stakes battle to keep Watts Bar from ever operating.

In 1986 and 1987, Myers frequently — sometimes weekly and occasionally more often — sent letters and memos to various NRC officials on the Watts Bar welding question. Myers sometimes sought information, but more often demanded that NRC respond to allegations posed by Myers.

In fact, Myers was so deeply involved in the welding question that the NRC allowed him to direct the early investigation, according to a Feb. 24, 1986, memo from Harold Denton, head of NRC's regulations office, to Victor Stello, NRC's No. 1 staffer.

"The TVA Oversight Group (an NRC blue-ribbon panel) has been assigned responsibility to review all of Dr. Myers' concerns and to identify any issues that are not currently being addressed as part of the startup review effort," Denton writes to Stello.

And when Myers complained about the lack of competence of NRC staffers, Denton wrote: "To the extent where Dr. Myers has raised concerns with regard to the adequacy of part of the staff review or inspections, those concerns will be addressed in general by the Senior Management Team's (another blue-ribbon panel for TVA) overall evaluation of the effectiveness of the regulatory process as it applies to TVA."

Second, the report exonerates TVA on an issue that has appeared for years as a symbolic Achilles' heel. The report suggests the enthusiasm for promulgating the weld issue shown by Myers, Taylor, Asselstine, Dingell and Udall was misplaced.

"The results also indicate that earlier concerns regarding welding at Watts Bar Nuclear Plant were overstated," White said in letter to NRC on Thursday.

"That letter is the nicest way that I can say that the issue was exaggerated by people who took preliminary information as fact," White said. "I think that this certainly amounts to an acquittal. But look how high the cost has been."

It wasn't only congressional, NRC staffers and Asselstine who attacked TVA's welding program at Watts Bar. On Sept. 24, 1986, one of Congress' most powerful members attacked NRC Chairman Lando Zech for foot-dragging in general on the issue of whether Watts Bar was built properly, and specifically on the investigation the deficient welding program.

"The (NRC) has continued to avoid a direct confrontation with the regulatory breakdown that has caused TVA's nuclear program to come to a standstill," wrote Dingell, chairman of the subcommittee on oversight and investigation of the Energy and Commerce Committee.

"A principal indicator of the (NRC's) approach to the matter is the lack of action with respect to the false certification of the Watts Bar readiness for licensing and possible material false statements with respect to other matters," Dingell said.

Third, in laying the welding question to rest, TVA can move in a more aggressive manner to license the $4 billion Spring City, Tenn., plant, which is not expected to be started until 1990. And in an industry where a perception of quality is often as meaningful as its actual existence, the welding report has given new energy to the overall recovery of TVA's crippled nuclear program.

"We were certainly most vulnerable on welding," White said. "Certainly from the number of allegations and also because of the wide publicity given to the issue, it did appear that welding might be a problem.

"Certainly, this increases our confidence in the Watts Bar Plant," White said. "But we have a long way to go to prove that plant — to me and the NRC. But, from the point of view that the welding issue has been an emotional and highly publicized one, this is a big step forward."

The weld problem has made Watts Bar the blackest sheep in TVA's nuclear herd. Whether this symbolic "acquittal" on the weld issue can be translated into a renewed confidence in the plant itself and an enhanced trust in TVA's overall competence is unclear.

"This is a shot in the arm," White said. "But I view this with mixed emotions. We spent a lot of money to prove this. I regret that. On the other hand, I'm pleased that it came out right."

Idaho National Engineering Lab is recognized nationally for its competence and leadership in testing complex nuclear systems. EG&G manages Idaho National Engineering.

> "That letter is the nicest way that I can say that the issue was exaggerated."
>
> —Steven White

Mr. OBERSTAR. Thank you very much for your frank and straightforward responses to questions, for clarifying the record. I think there may be some further questions we will have about various operations of the TVA, and we will revisit this question at a later hearing this year.

Thank you very much for being with us today.

Mr. RUNYON. Thank you very much.

Mr. OBERSTAR. The subcommittee stands adjourned.

[Whereupon, at 5:22 p.m., the subcommittee was adjourned.]

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